

COMPUTER COURSE

Windows 7 and Office 2010

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Software Consultant



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PREFACE



Since early 2000, the use of computers has grown so rapidly that it is difficult to think of an area where computers are not being used. This means that whether you are a school or college student, an office or factory employee, a housewife, or an even a retired person, it is very desirable that you have good knowledge about computers and its common applications. This is, exactly, the purpose behind writing this book. Designed for an average user, this book gives a detailed and yet a simple explanation of how to use a PC for basic needs. The only pre-requisite for the reader is the ‘ability to read’, and hence the book has been kept extremely simple. Easy to follow step-by-step instructions accompanied by appropriate illustrated screenshots make the learning an easy experience.

The book is designed in such a way that you do not need to read it from the beginning to the end—you may easily skip a topic and jump to a new topic of your choice and, if required, come back to the skipped topic later.

Salient Features of the Book

- Simple and step-by-step explanation with screen shots for better understanding
- Latest version of Windows 7 and Microsoft Office 2010
- Latest Web Browsers: Internet Explorer 11, Google Chrome and Mozilla Firefox
- Introduction to social networking sites like Facebook, Google+
- Updated Information on ‘How to protect your computer’
- Pedagogy includes
552 Illustrations
Short Tips and Notes

Highlights of the Book

- No prior knowledge assumed
- Detailed yet simple explanation on how to use Microsoft Windows, Word, Excel, Access, PowerPoint, Internet and web browsers
- Separate chapter on Tally ERP.9

Chapter Organization

The book contains 9 chapters. **Chapter 1** starts with introduction to computers, their architecture and applications. Then it goes on to explain basic computer terms, such as hardware, software, operating system, computer languages, application programs, open source software, etc. Finally, it explains the Personal Computer (PC), its components and how to setup and start a PC. **Chapter 2** explains Windows 7 in detail. Besides describing how to use Windows 7 on a PC or Laptop, it also explains the new features, such as Windows Flip, Aero Peak, Aero Snap, and Aero Shake, as well as Windows utilities, such as Notepad, WordPad, Paint, Calculator, Snipping Tool and Sticky Notes.

Chapter 3 to 6 describe Microsoft Word, Microsoft Excel, Microsoft Access and Microsoft PowerPoint, the Microsoft Office 2010 programs in detail. **Chapter 7** describes how to use the Tally.ERP 9 program. **Chapter 8** discusses all aspects of the Internet and web browsers, including how to use the common web browser, such as Internet Explorer, Mozilla Firefox and Google Chrome, search engines, downloading and uploading files, audio and video on the web, as well as using the Internet in Indian languages. **Chapter 9** describes all aspects of emailing, including description of common email programs, such as Outlook, Hotmail, Yahoo! Mail, Outlook.com and Google Mail (Gmail). This chapter also discusses common instant messaging programs, such as Windows Live Messenger, Yahoo! Messenger, Skype and Google Talk, and social media sites. Microsoft Family Safety, a useful program for parents, is also described in detail in this chapter.

Web Supplements

Following material can be accessed at <http://www.mhhe.com/taxali/cc>

- Additional material and tips about topics covered in the book.
- New or changed features for the programs discussed in the book.
- Exercises/review questions for existing topics.
- Additional topics.

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It is recognized that certain terms used in the book are trademarks, and every effort has been made to print these throughout the text with capitalization and punctuation used by the holder of the trademark. Suggestions or constructive criticism are most welcome. Readers can write to me at Ravi@RaviTaxali.com.

RAVI KANT TAXALI

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WHAT IS A COMPUTER?

In this chapter, we will discuss the following topics:

- ◆ *Introduction and history of computers*
- ◆ *Generation of computers*
- ◆ *Classification and application of computers*
- ◆ *Computer architecture and organization*
- ◆ *What are hardware and software*
- ◆ *What is an operating system and the popular operating systems*
- ◆ *Computer languages, application programs and custom software*
- ◆ *Shareware, freeware, public domain and open source software*
- ◆ *Networking concepts and computer numbering systems*
- ◆ *What is a personal computer and other types of computers*
- ◆ *Input and output devices used with PCs*
- ◆ *Setting up and starting the PC*



1.1 INTRODUCTION

The term '*computer*' has been borrowed from *compute* that means—to calculate. Whereas initially computers were used to perform arithmetic calculations at fast speed, now they are used in nearly every field. You can use computers for banking applications, Word processing, desktop publishing, weather forecasting, railway ticket reservations, control of machines or robots in factories, scientific research, etc. In brief, a computer may be defined as a device that receives some kind of data, analyzes it, and then applies a predefined set of instructions to it to produce some kind of output. For instance, when you go to a railway ticket reservation counter, the operator feeds your request for a ticket reservation into the computer. The computer then analyzes the data fed by the operator and makes a reservation. Then it prints a ticket for you. The ticket is the *output* generated by the computer based on the reservation request (*input*) entered by the operator. It is also said that the computer is a *data processor*, because it can receive, store, process and retrieve any kind of data. For instance, you can store the names and addresses of all employees working in a company in a computer file. Later, you can ask the computer to print a list of only those employees who work in the Accounts department.

1.1.1 Characteristics of a Computer

The following are the characteristics of a typical computer:

1. **Speed:** Present-day computers operate at very high speeds. A computer can perform several million instructions (calculations) in one second. There are several different types of computers and they all have different speeds ranging from high to very-very high. Typically, the speed of computers is specified in MIPS (Million Instructions per Second), FLOPS (Floating-Point Operations per Second) or MFLOPS (Million Floating-Point Operations per Second).
2. **Accuracy:** Computers perform with a very high degree of consistent accuracy. Nowadays, computer technology is well stabilized, and the chances of a computer giving inaccurate results are very rare. Sometimes computers do make mistakes. This may happen if there is an undetected flaw in the design of the computer (that is very rare nowadays.) Most of the time, computers make mistakes if they are not programmed correctly or if the input data is inaccurate, e.g. if you try to divide a number by 0.
3. **Diligence:** When human beings are required to work continuously for a few hours, they become tired and start losing concentration. On the other hand, a computer can continue to work for hours (or even days) at the same speed and accuracy. It does not show signs of tiredness or lack of concentration when made to work continuously. Because of this property, computers are generally used in all such situations where the same or similar task has to be repeated a number of times, e.g. preparing the salary slip for 10,000 employees of a company, or printing dividend cheques for 10,000,000 shareholders of a large company.
4. **Versatility:** Computers are very versatile. The same computer can be used for various applications. For instance, you can use a Personal Computer (PC) to prepare a letter, prepare the balance sheet of a company, store a database of employees, produce a professional-looking advertisement, send or receive fax messages, etc. For a computer to perform a new job, all it needs is a *program*. (A program is a set of instructions that enables a computer to do a particular task.) Thus, if you want a computer to perform a new task, all you need to do is to write a new program for that task.
5. **Data storage:** A computer can store huge amount of data in its memory. Almost any type of data, such as a letter, picture, sound, etc., can be stored in a computer. We can recall the stored data from the computer whenever we need it. For instance, when we type a letter, you can save it. Or,

if you want to send a similar letter to another person, you can recall that letter from the computer's memory, modify it and print a new letter. The information can be stored accurately in a computer's memory for several years.

6. **Unintelligent:** A computer has no intelligence of its own. It cannot think or apply its judgement. It gets its power from the program that it runs. It will do only what it is asked to do. It has to be told what to do, and in what sequence. Therefore, the program that the computer runs determines what task it will perform. Thus, if you run a Word processor program on a computer, it becomes a Word processor and if you run a Desktop Publishing (DTP) program, it becomes a desktop publisher. So, a computer does not take its own decisions—it simply follows the instructions of the programmer or the user.
7. **Without emotions:** Computers are not living beings. Hence, they do not have any emotions. They do not have any heart or soul. Human beings often take some decisions based on emotions, taste, feelings, etc.; however, computers always take decisions based on the program that they run.

1.2 HISTORY OF COMPUTERS



When the human race began involving in trade, it felt the need for a calculating device. An early manual-calculating device called *abacus* was developed for this purpose as shown in Fig. 1.1. The abacus that was used more than 2000 years ago is still in use in many countries such as China and Japan. Blaise Pascal developed the first mechanical adding machine in 1642. About 30 years later, in 1671, a German mathematician developed a calculating machine that could add, subtract, multiply, divide, and even extract the square root. Then, around 1800, a mechanical desk calculator was developed.

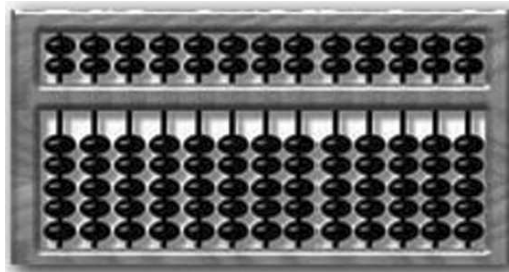


Fig. 1.1 *Abacus*

In the next phase of development, machines that could calculate and print results were developed around 1890. Around the same period, Dr. Herman Hollerith came out with the concept of punched cards to store data. These punched cards were used extensively as input media in modern digital computers.

In 1833, Professor Charles Babbage of Cambridge University, England, who is considered the father of the modern digital computer, proposed a machine. He named this machine the *analytical engine*. Professor Charles Babbage spent much of his life in building this machine but could not succeed, as the precision engineering required to build it was not available at that time. However, the principles he established were used later in the design of digital computers.

Most of the work on the development of early digital computers was done between 1937 and 1957. Some of the well-known early computers are discussed briefly in the following sections.

1.2.1 Mark I Computer (1937–1944)

The Mark I computer, also called the Automatic Sequence Controlled calculator, was the first fully-automatic calculating machine. This computer was developed by Professor Howard Aiken of Harvard University in collaboration with International Business Machines Corporation (IBM). Mark I was not an electronic computer. Rather, it was an electromechanical computer. The size of this computer was huge and its design was very complex, but it was quite reliable. It could perform the five basic arithmetic operations—addition, subtraction, multiplication, division and table reference.

1.2.2 Atanasoff Computer (1935–1942)

The first electronic computer was developed by Dr John Vincent Atanasoff, a professor of physics and mathematics. He did most of the work on his prototype during 1935–1942.

1.2.3 ENIAC (1943–1946)

The Electronic Numerical Integrator and Calculator (ENIAC) was the first electronic computer. ENIAC was built at Moore School of Electrical Engineering, University of Pennsylvania, USA, by a team led by Professor J Presper Eckert Jr. and John W Mauchly. The ENIAC used about 19,000 *vacuum tubes* and was housed in a room of about 800 square feet. It could do around 300 multiplications per second but had a shortcoming—it could not store the operating instructions internally; these were fed through externally wired plug boards.

1.2.4 EDSAC (1947–1949)

A team of scientists led by Professor Maurice Wilkes at Cambridge University, UK, developed the first ‘stored instruction’ computer—the EDSAC (Electronic Delay Storage Automatic Computer). The demonstration of the first program on EDSAC was held in 1949.

1.2.5 EDVAC (1946–1952)

The Electronic Discrete Variable Automatic Computer (EDVAC) project was the first effort to develop a stored instruction computer. It was developed by a team led by Professor J Presper Eckert Jr. and John W Mauchly, University of Pennsylvania, USA. The design concepts were based on Dr John Von Neumann’s idea that both data and instructions can be stored in the *binary form*, instead of the decimal number system used by human beings (Binary number system is discussed later in this chapter.).

1.2.6 UNIVAC I (1951)

The first Universal Automatic Computer (UNIVAC) became operational at the Census Bureau, USA in 1951. This computer was used at the Census Bureau for about a decade. General Electric Corporation acquired UNIVAC I in 1954 and used a computer for a commercial purpose for the first time.

1.3 GENERATIONS OF COMPUTERS



1.3.1 First Generation (1951)

The early electronic computers, such as ENIAC, EDSAC, EDVAC, UNIVAC I, etc., used *vacuum tubes* to control the flow of *electronic signals*. These computers used thousands of vacuum tubes. Vacuum tubes are big in size (about the size of a small electric bulb) and produce a lot of heat. Because of this, the ‘first generation’ computers were too bulky in size and used to produce a lot of heat. Therefore, they needed air-conditioning. Besides, the vacuum tubes used to burn out frequently resulting in failure

of the computer. Therefore, these computers could not be used continuously and had to be stopped frequently.



Fig. 1.2 Vacuum tubes used in a computer

1.3.2 Second Generation (1959)

The computers of the 'second generation' were introduced around 1959. These were made of transistors, a smaller and more reliable component invented in 1947. A transistor is very small compared to the vacuum tube and produces very little heat. The use of transistors in computers made the second-generation computers faster, smaller and reliable.



Fig. 1.3 A transistor used in the second generation computers

1.3.3 Third Generation (1964)

The introduction of *Integrated Circuits* (ICs), also known as *chips*, opened the door for the development of the 'third generation' computers. A very large number of circuit elements—transistors, diodes, resistors, etc., could be *integrated* into a very small (less than 5 mm square) surface of silicon (hence the name IC). 'Third-generation computers' were based on the IC technology. The System/360 introduced by IBM in 1964 was the first third-generation computer. Third-generation computers were smaller, faster and more reliable than second-generation computers. Though the first third-generation computer

by IBM was introduced in 1964, some manufacturers continued to manufacture the second-generation computers as late as 1975.



Fig. 1.4 *An Integrated Circuit (IC) used in the third generation computers*

1.3.4 Fourth Generation (1971)

Initially, about 10–20 components were contained in an IC. This technology was called small-scale integration (SSI). Later, with the advancement in IC design and manufacturing technology, it became possible to integrate up to 100 components in an IC. This technology was called medium-scale integration (MSI). Later, it became possible to integrate over 10,000 components in one IC. This technology was called large-scale integration (LSI). With the advancement of IC technology, now it is possible to integrate over 100,000 components in a very large-scale integration (VLSI) chip. The ‘fourth-generation’ computers that were introduced around 1971 were based on LSI chips. Ted Hoss of Intel Corporation, USA introduced the first microprocessor (the brain of a computer) Intel 4004, and early fourth-generation computers were based on this microprocessor. Later Intel and other companies introduced microprocessors that were thousands of times powerful than the first microprocessor. Figure 1.5 displays an Intel Pentium microprocessor. Because of the very small size of the ICs used in fourth generation computers, they are very small, very powerful, fast and cheap. That is why an ordinary person can own a computer.

In 1970s, various companies introduced several types of small computers, called home or personal computers, but these were not compatible with each other. The standardization in the personal computers field started with the introduction of an IBM PC by IBM in 1981, which was based on an Intel 8088 microprocessor. Soon, all major home computer manufacturers abandoned their models and switched to IBM PC; however, one company, Apple Inc., co-founded by Steve Jobs in 1977, didn’t. In 1970s, it made the popular Apple PC and in 1980s made Lisa and Macintosh (Mac) PCs which, though not compatible with IBM PC were very popular with some section of users due to ease of use because of its excellent graphical user interface (GUI), not available initially in IBM PC. In 2013, Apple continues to manufacture the Macintosh computer, which has gained popularity since 2006.

Scientists are working on the development of fifth-generation computers that will have massive computing power, intelligence, and ability to reason and learn, knowledge of the real world, and which can understand and talk in natural language.



Fig. 1.5 *An Intel Pentium microprocessor with heat sink*



1.4 CLASSIFICATIONS OF COMPUTERS

Computers are used for several applications in almost all fields of modern life. Different types of applications require different types of computers. For instance, for desktop applications, such as Word processing, you may require a small computer. On the other hand, a large company may require a large and powerful computer. Computers can be classified based on size, application, speed, technology, etc.

One of the most commonly used classifications of computers is based on its size. In the beginning, the computers were divided into three categories—large (mainframe), mini and micro. Later, another category, *supercomputers* was added, which are very powerful large computers. The first supercomputer CDC-6600 was developed by Control Data Corporation (CDC) in 1964. Later, CDC introduced other popular supercomputers, such as Cray-1 and Cray-2. Personal Computers (PCs) that you use fall into the micro category. Small microcomputers that were used for personal applications in homes in the 1980s were called *home computers*. Large companies, banks, airlines, etc., normally use large (mainframe) computers. Mini computers fall between the mainframes and microcomputers. With the rapid advancements in the computer hardware and software technology in the last decade, the dividing line between mini and microcomputers has become fuzzy. The present microcomputers have more computing power than those of mini computers of the last decade. During the last two decades, PCs have evolved into other subcategories, such as notebooks/laptops, palm computers and tablet computers. These will be discussed later in this chapter.

Computers can also be classified as *analog* and *digital*. PC is a digital computer. The computers used in offices and homes are generally digital. Digital computers operate directly on numbers that are expressed as *digits*. Digital computers are more accurate than analog computers. They can be used for data processing as well as for scientific, engineering and industrial applications. On the other hand, analog computers that are normally used in the process industry or in measuring instruments can directly measure physical parameters, such as voltage, current, pressure, temperature, length, weight and flow. However, nowadays, digital computers are also being used for industrial applications.



1.5 APPLICATIONS OF COMPUTERS

The use of computers is increasing at such a rate that there is hardly any field where computers are not used. The following list describes some of the applications of computers:

- In offices and homes for preparing documents and to perform other data processing jobs
- To prepare salary slips and salary cheques in offices and factories
- To maintain accounts and transfer funds in banks
- To store and retrieve large amount of information in offices
- To send and receive electronic mail/fax
- To search and retrieve information from other computers
- To reserve tickets in the transportation sector, e.g., railways, airlines, etc.
- To regulate traffic lights on roads and to control machines and robots in factories
- To design automobiles, buildings and dams and to forecast weather
- To create animation/cartoon movies, compose music and play games
- To control modern automobiles, trains, airplanes, etc.
- To control electronic appliances, such as air-conditioners, TVs, VCRs, vacuum cleaners, etc.
- To do on-line banking, buy and sell merchandise, shares, bonds, etc.

- To control and simulate industrial and defence equipment
- For scientific and industrial research

1.6 COMPUTER ARCHITECTURE AND ORGANIZATION



You might be using computers for various applications; however, if you carefully analyze the tasks computers perform, all computers perform five basic operations. Let us have a look at these operations with reference to ticket bookings at the railway ticket reservation counter.

1. **Input:** Computers receive data from outside. For example, when the ticket reservation clerk types your ticket-booking request, the computer accepts these details. We feed *data* (e.g., reservation details) as well as *instructions* into computers. Instructions tell computers what to do with the data. There are a number of devices that are used to receive data and instructions from the outside world. The keyboard on your PC is one of the most commonly used input devices.
2. **Storage:** When you enter data or instructions into the computer, these are stored somewhere in the computer system. Because a computer cannot process or analyze all input data instantaneously, it has to store the data. The computer will retrieve the data/instructions from the storage unit when it has to process it. It may also have to store data to do additional processing later. For instance, the Railway Reservations Computer requires the booking details again to prepare reservation charts on the date of departure of the train.
3. **Processing:** Computers *process* (analyze) the input data available in its storage unit in order to get some useful *output*. For instance, it may process the request for booking of a seat in a particular train on a particular date, and check if a seat is available on the requested date.
4. **Outputting:** After the computer has processed the input data, it provides useful information (result) to the user. For example, the Railway Reservation Computer may print the ticket or show on the computer screen that the seat is not available on the requested date. This process is called *outputting*.
5. **Control:** All computers have a control unit that controls the manner and sequence of operations. For example, the Railway Reservations Computer has to do the operations—input, storage, processing and outputting—in the correct sequence in order to make a reservation and print a ticket. This is controlled by the control unit of the computer.

All computer systems perform the above five functions. Figure 1.6 illustrates the functional organization of a computer.

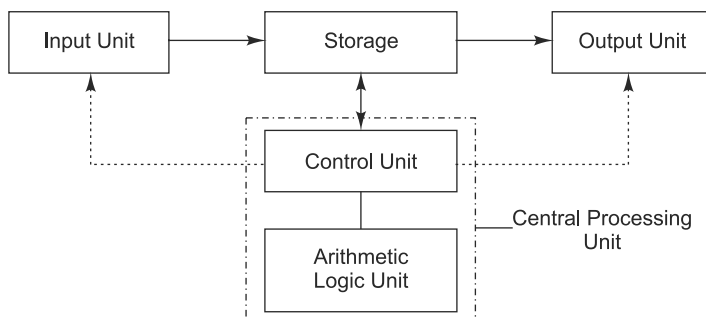


Fig. 1.6 Functional organization of a computer

1.6.1 Input Unit

Computers need to receive data and instructions in order to solve any problem. Therefore, we need to put the data and instructions into the computers, and the input unit perform this task. The input unit consists of one or more *input devices*. The keyboard of your computer is one of the most commonly used input devices; other devices include mouse, floppy disk drive, hard disk drive, CD-ROM, scanner and magnetic tape. Regardless of the type of input device used in a computer system, all input devices perform the following functions:

- Accept data and instructions from the outside world
- Convert it to a form that the computer can understand
- Supply the converted data to the computer system for further processing

1.6.2 Storage Unit

The storage unit of the computer holds the data and instructions that you enter through the input unit before these are processed. It preserves the intermediate and final results before these are sent to the output devices. It is also used to preserve the data for later use, e.g., you may like to save a letter you type today for printing after one week. The various storage devices used in computer systems are classified into two categories—primary and secondary.

1. **Primary Storage:** The primary storage, also called the *primary memory* or *internal memory*. The CPU can store data in this memory and read information stored there very fast as it can directly access the primary memory. The primary storage or memory can be of two types—Read Only Memory (ROM) or RAM (Random Access Memory). The Read Only Memory is a memory whose contents cannot be changed. ROM usually stores the basic set of instructions that computer needs to execute when it is turned on. In PC, these basic set of instructions is called the basic input-output system (BIOS). Though there are two types of RAM, *static* and *dynamic*, dynamic memory is normally used in PCs. The RAM memory is the main memory used by the computer to hold data and the *program* currently being executed in the computer; the data being received from the input unit and the intermediate and final results of the program. The information stored in RAM memory can be accessed in any order and data stored at any *address* in the RAM memory can be erased or re-written with new data.

Most computers use *semiconductor* memory as primary storage. Semiconductor memory is very fast and can be accessed in random manner. The primary memory generally loses its contents when we switch off the computer. Therefore, if we need to preserve the results or the input data, we have to transfer it to the secondary storage. The cost of the primary storage is more compared to the secondary storage. Therefore, most computers have limited primary storage.

2. **Secondary Storage:** The secondary storage (memory) is used like an archive. It may store several programs, documents, databases, pictures, music files, etc. The program that you want to run on the computer is first transferred to the primary memory before it can run. Similarly, after running the program, if you need to save the results, you will transfer them to the secondary storage. As CPU cannot access the secondary memory directly, it is slower than the primary memory. Some of the commonly used secondary memory devices are hard disk, USB flash drive, floppy diskette, zip diskette, magnetic tape and recordable CD, DVD or Blu-ray disk.

Memory Size All digital computers use the binary number system. In the binary number system, *bit* (acronym for binary digit) represents the smallest information that can be 0 or 1. All information that is stored in the memory is made of bits. Each alphanumeric character, e.g., ‘a’, ‘b’, ‘1’, etc., is

represented by a code composed of 8 bits. This set of 8 bits is called a *byte*, and each byte stores one character.

The size of the primary storage is usually specified in kilobyte (KB), megabyte (MB) or gigabyte (GB). 1 KB is equal to 1024 bytes, 1 MB is equal to 1024 KB and 1 GB is equal to 1024 MB. The size of the primary storage in a typical low-end PC usually starts at 1GB. PCs with 2 GB, 4 GB, 8 GB are quite common. Figure 1.7 displays an 8 GB memory card. On the high-end PC, we may find 16 GB, 32 GB, 64 GB, 128 GB and higher memory.



Fig. 1.7 8 GB memory card module used in PCs

1.6.3 Output Unit

The output unit of a computer provides the information and results of a computation to the outside world. As you know, computers do not work in the decimal system; they work in the *binary* system. Therefore, if required, the output unit also converts the binary data into a form that users can understand. Printer and Video Display Unit (VDU; also called Display Screen or monitor) are common output devices. Other commonly used output devices are hard disk drive, USB flash drive, floppy disk drive and magnetic tape drive. In the earlier generation computers, paper tape punch units and card punch units were also used as output devices.

1.6.4 Arithmetic-Logic Unit

All calculations are performed in the Arithmetic-Logic Unit (ALU) of the computer. ALU also does comparisons and takes decisions. Whenever any calculation is performed, the control unit (*discussed in the next section*) transfers the required data from the storage unit to the ALU. To hold the data transferred into ALU, it contains a few special-purpose storage locations called *registers*. The number of registers varies among computers. The ALU can perform basic operations such as addition, subtraction, multiplication, division, etc. The ALU can also do logical operations, e.g., it can check if the number A is less than, equal to or greater than the number B. After the ALU has performed the calculation or the logical operation, depending on the instruction the result is either stored in a register or transferred to the storage unit.

ALU is capable of performing a fixed set of instructions. For instance, it may be able to do add, subtract, multiply and divide two numbers. It does not have capability to do any operation outside these predefined instructions, called the *instruction set*. Different ALUs (or CPUs, discussed later) have different instruction sets. If the instruction set of an ALU does not include a particular operation, software programs try to do it indirectly. For instance, one can multiply two numbers by repeated additions or divide two numbers by repeated subtraction.

1.6.5 Control Unit

The control unit controls all other units in the computer. The input unit does not know when to receive data and where to put the data in the storage unit after receiving it. It is the control unit that gives the necessary instructions to the input unit. Similarly, the control unit instructs the input unit where to store

the data after receiving it from the user. In the same way, it controls the flow of data and instructions from the storage unit to ALU. It also controls the flow of the results from ALU to the storage unit. The control unit also controls what should be sent to the output unit and when. In brief, the control unit is the central nervous system of the computer that controls and synchronises its working.

1.6.6 Central Processing Unit

The control unit and ALU of the computer are together known as the Central Processing Unit (CPU). In most modern computers, a single IC does the job of controlling all units of the computer. The same IC also contains the ALU. The CPU is like a computer's brain which performs the following functions:

- Performs all calculations
- Takes all decisions
- Controls all units of the computer

Your PC may have a CPU IC, such as Intel 8088, 80286, 80386, 80486, Celeron, Pentium, Pentium Pro, Pentium Pro 2, Pentium 3, Pentium 4, Pentium D, Core i3, Core i5, Core i7, AMD K6, Xeon, Dual Core Xeon, AMD Duron, AMD Athlon, AMD Phenom, AMD Fusion, etc. Each CPU operates at fixed speed. Most PC advertisements mention CPU IC name or number and the speed, e.g., Intel Pentium 4 at 1.8 GHz or Intel Pentium 4 at 2.8 GHz. This speed, also called the *processor speed* or *CPU clock frequency* gives the base timing for all operations CPU does. For example, 1 GHz (Giga Hertz) comes to the base timing (cycle) of 1 *nanosecond*. Sometimes we say that CPU clock cycle is 1 nanosecond. Internally, CPU needs a fixed number of clock cycles to perform each operation. For instance, if it needs three cycles to add two numbers, it will need 3 nanoseconds to add these numbers if it is operating at 1 GHz. On the other hand, a CPU operating at 2 GHz may be able to do the same operation in half the time. Therefore, as a thumb rule, higher the CPU clock frequency, faster the programs run. However, it does not mean that if you switch from Pentium 4 at 1.2 GHz to Pentium 4 at 2.4 GHz, your programs will start operating at double the speed. This is so because other devices in the faster PC, such as hard disk or CD-ROM may not be able to operate at higher speed.

1.7 HARDWARE AND SOFTWARE



You see several physical devices such as the monitor, floppy disk drive, hard disk drive, keyboard, printer(s), CD-ROM, etc., in your PC. These physical devices are called *hardware*. The hardware does various operations in your PC, such as accepting and storing data, performing calculations and displaying or printing results.

The physical devices or the hardware in a PC cannot work on their own. To make the hardware work, you require a set of programs. A set of programs associated with the operation of a computer is called *software*. Different types of software (also called software programs) are used with PCs. Software can be classified into the following major categories:

1. **Operating systems** such as DOS, Windows 95, Windows 98, Windows 2000, Windows XP, Windows Vista, Windows 7, Windows 8, OS/2, Mac OS, UNIX, Linux, Android, etc.
2. **Programming languages** such as Basic, FORTRAN, COBOL, C++, Perl, Java, PHP, etc.
3. **Application programs/packages** such as Word processors, Spreadsheet, Database Management Systems (DBMS), etc.
4. **Other application programs** doing a specific job, e.g., accounting, payrolls, billing, weather forecasting, ticket reservation, etc.



1.8 WHAT IS AN OPERATING SYSTEM?

The operating system (OS) is a collection of programs that controls all hardware and other resources in the computer system. Without it, the 'bare' computer system is useless. It is the operating system that operates and controls the CPU, memory, various I/O devices such as the keyboard, the mouse, the video display unit, the printers, etc. It is responsible for the smooth and efficient operation of the computer. When we want to run a program, for instance, a Word processor or a spreadsheet program, the PC has to perform the following jobs:

1. Locate the program file(s) required to run the program on the floppy or the hard disk drive.
2. Find out the vacant space in the memory where the program file(s) may be loaded.
3. Load the program file(s) in the memory.
4. While the program is running, keep the resources required by the program reserved on permanent or a *time-sharing* basis.
5. Manage and control the user's interaction with the I/O devices.

All these tasks are done by the operating system. For instance, when you press a key on the keyboard, it is the operating system that accepts the key and provides it to the Word processor.

Nowadays, operating systems are very complex. Besides controlling and managing the computer's resources, the operating system also does the following jobs:

1. The operating system creates and manages the directory system on the secondary storage devices. It also contains commands to copy, rename, move and delete files and directories on the secondary storage devices.
2. It contains a text editor that can be used to create simple text files.
3. Enables the computer to run multiple tasks simultaneously, e.g., to run Word processor and spreadsheet programs simultaneously.
4. It maintains an internal real-time clock known as the *system clock*. This clock is used to display the current date and time. This clock is also used to mark the date and time of creation or modification of files. This is also called *time stamping* of files.
5. It acts as an interface between the user and the computer. It accepts commands and instructions from the user and executes them, and displays suitable error messages, if required.
6. It includes several tools and utility programs to help the user to do routine jobs and control the behavior of the computer systems. For instance, the operating system may have tools to manage memory, defragment disk, check the surface of a disk for errors, and to back up files from hard disk to floppy disks, play audio/video files, etc.

1.8.1 Popular Operating Systems for PCs

The following are popular operating systems for PCs:

1. Disk Operating System (DOS), FreeDOS and Windows 3.1
2. Windows 95/98
3. Windows 2000/Me
4. Windows XP
5. Windows Vista
6. Windows 7
7. Windows 8

8. Windows NT
9. OS/2
10. Unix and Linux
11. Mac OS/OS X

Among the above, Windows 3.1 (or 3.11) is not an operating system. It is a program that runs on DOS to create an operating environment. That is, Windows 3.1 is not an operating system but only an operating environment. To use Windows 3.1 environment, you first need to load DOS. After loading DOS, you can load Windows 3.1.

The Disk Operating System (DOS) was the first operating system developed for the IBM PC by Microsoft Corporation. This was called DOS because, in the beginning when DOS was introduced, all program files required to start this operating system were stored on a floppy diskette. To load the operating system in the PC, it was necessary to put the floppy disk containing DOS in the floppy disk drive at the time of switching on the PC. Now, of course, most PCs are equipped with a hard disk and DOS or other operating system (OS) program files are kept on the hard disk. When you switch on the PC, the operating system is loaded from the hard disk.

Compared to a DOS-based PC, all Windows operating systems bring two additional capabilities to the PC:

1. The video display unit can display characters in different shapes and sizes, and it can also display graphics. In other words, it converts the '*character based*' interface to a '*graphical user interface*' (GUI).
2. The PC can run more than one program simultaneously. In other words, compared to DOS that could run only a single task, Windows is a multi-tasking operating system/environment.

Windows 95 and Windows NT are two other popular operating systems for PCs from Microsoft Corporation. Windows 95 is an updated and enhanced version of Windows 3.1 operating environment. Compared to Windows 3.1, it is easy to use and learn. It is also well suited to run multiple programs. Microsoft Corporation released Windows 98, the updated version of Windows 95 in 1998. Windows 2000 is another operating system from Microsoft released in 2000.

Windows XP, released in 2002 is a popular and one of the most stable operating system from Microsoft. "XP" is short for experience, symbolizing the rich and extended user experiences offered by the operating system. Microsoft released Windows Vista in January 2007 and its latest operating system, Windows 7 in October 2009. Windows 8, the successor to Windows 7 was released in October 2012.

Windows NT too is a standalone operating system and does not run on the top of DOS. Windows NT was released in 1992. Windows NT provides many security features, and it is very difficult for any program to corrupt and crash this operating system. However, it did not become very popular because it required more hardware resources to run. Developers who want a reliable and protected operating environment generally prefer Windows NT.

With each new release of its Windows operating system, Microsoft has tried to improve the GUI, improved security and introduce new features. This is particularly true for Windows Vista. However, newer operating system usually also demands more hardware resources, i.e., more powerful CPU, more hard disk space and more RAM memory. Due to these limitations, many users continue to use older Windows operating system.

One major difference between Windows 95/98 and Windows NT/2000/XP/ME/Vista/7/8 operating systems is the file system. While Windows 95 and Windows 98 use the FAT (File Allocation Table)

file system, Windows NT, 2000, XP, Vista and other new OS use NTFS (Windows NT File System). The NTFS file system provides improved performance, reliability and better disk space utilization. Another useful feature available in Windows Me, Windows XP, 7, 8 and Vista is *System Restore* that allows rolling back of system files and installed programs to previous state if the computers starts failing or malfunctioning after installing a new program or software update.

OS/2, FreeDOS, Linux and UNIX are other operating systems that are used on PCs, though on a limited scale. IBM developed OS/2. FreeDOS is a free and *open-source* operating system that anyone is free to use and modify. UNIX, which is one of the most popular operating systems on mainframe and mini computers, is also sometimes used on high-end PCs, particularly on a Local Area Network (LAN). Linux, an open-source operating system, is also slowly becoming popular. Mac OS and Mac OS X are used on Apple's Macintosh (Mac) computers, which are different from PCs.

1.9 COMPUTER LANGUAGES



Computers are machines and unfortunately, they cannot understand natural languages like Hindi, English, Tamil, etc., that human beings speak and understand. Therefore, in order to give instructions to computers, different languages have been developed. These languages are called *computer languages*. To get a particular work done by computers, programmers write instructions using these computer languages. Each computer language has its own vocabulary. The vocabulary of a computer language is very limited compared to that of a natural language of a human being. Each natural language has its rules of grammar. Similarly, each computer language too has its set of rules that are called *syntax rules*. Since computers have a different set of languages, we have to use the exact syntax rules of the computer language whenever we write any computer program. Otherwise, the computer will not be able to understand our instructions.

Over the last few decades, several computer languages have been developed. Different computer languages are suitable for different applications. For example, COBOL (Common Business Oriented Language) may be more suitable for business applications, whereas FORTRAN may be more suitable for scientific or engineering applications. We can classify all computer languages into the following three major categories:

1. Machine Language
2. Assembly Language
3. High-Level Language

1. Machine Language: Machine language is the only language the computer understands. It is the fundamental language of the computer. We may use different languages to program a computer. However, each computer program written in other computer languages is translated to machine language before running that program. That is, even if we write a program in an assembly or a high level language, ultimately, it is the machine language that instructs the computer.

In machine language, instructions are written as strings of binary 1s and 0s. For example, the instruction 00001000 may represent addition of two numbers. Similarly, the instruction 01001010 may represent multiplication of two numbers. Each type of computer has its own machine language. It is directly related to the CPU used in that computer. Thus, 00001000 may represent addition in one computer, and it may mean some other operation in another computer.

As machine language is the language of the CPU, programs written in this language are executed very fast. However, writing programs in machine language is very time consuming

and error prone. The programmer has to remember all available instructions and also needs to know how each instruction affects the memory and *registers* in the CPU. Also, modifying and testing programs written in machine language are very difficult. Another disadvantage of programs written in machine language is that these programs are not *portable*. Because each CPU has its own machine language, a program written in machine language for one particular CPU will not work on another computer that uses a different CPU. Because of these limitations, programs are rarely written in machine language nowadays.

2. **Assembly Language:** Assembly language is one level above the machine language. It uses certain pre-defined symbolic codes instead of binary codes. These symbolic codes are called *mnemonics*. For instance, we can use the ADD mnemonic in place of 00001000 in the program written in assembly language. Remembering mnemonics is easier than binary codes. For instance, it is easy to remember ADD (for addition) than remembering 00001000. Therefore, writing programs in assembly language is easier and less time consuming compared to writing programs in the machine language.

Assembly language closely resembles machine language and both are considered low-level languages. Like machine language, assembly language is also CPU specific. However, making modifications in an assembly language program is relatively easy. Also, an assembly language program is easy to document.

What is an Assembler? As we have already mentioned, computers understand only machine language. Therefore, to run a program written in assembly language, it has to be translated into machine language before you can run it. The translation of an assembly language program into a machine language program is done by another program known as the *assembler*. The assembler converts all instructions written using mnemonics into binary codes. Because each CPU has its own machine language, you require different assemblers for different CPUs. For instance, there is a separate assembler for a PC using 80486 CPU and a different assembler program for a PC using the Pentium CPU.

3. **High Level Languages:** We have seen that writing a program in machine language and assembly language is difficult and time consuming. Further, these programs are CPU specific and therefore, are not portable. Moreover, it is time-consuming to modify programs written in machine or assembly language. High level languages overcome these limitations to a large extent.

While writing a program in a high level language, the programmer need not know the internal structure of the computer. That is, he/she need not know the instructions the CPU can execute or how to address memory or I/O devices. Thus, instead of concentrating on the internal structure of the computer, the programmer concentrates on the logic of the problem. In high level languages, the program can be written using simple English words and common mathematical symbols. For example, consider the following program.

```
INCOME = 80000
TAX_RATE = 20
INCOME_TAX = INCOME * TAX_RATE/100
PRINT INCOME_TAX
```

In this program, the first statement creates a variable INCOME and stores 80000 in it. Similarly, the next statement stores 20 in the TAX_RATE variable. The next statement calculates the income tax and stores it in the variable INCOME_TAX. Finally, the last statement prints the result on the

screen. While writing this program, the programmer is not concerned with where the CPU will store these values or what instructions are required to perform these operations.

We use computers for different types of applications, such as business, scientific, engineering, etc. On the same lines, different high-level languages have been developed to efficiently handle different applications. Some of the common high-level languages are BASIC, FORTRAN, COBOL, PL/1, Pascal, ADA, RPG, LISP, ALGOL, C, C++, PHP, Java, etc. Each high-level language is suitable for a particular type of application. For instance, COBOL that is normally used in business applications may not be suitable for scientific or engineering applications.

As you know, computers understand only machine language. Therefore, to run a program written in a high-level language, we need to convert it to machine language. Translation programs do this job. There are two types of translation programs—*interpreters* and *compilers*.

Interpreters and Compilers There is a minor difference between an interpreter and a compiler. The interpreter translates the program written in a high level language into machine language at the time of executing that program, instruction by instruction. That is, it reads the first instruction written in the program and converts that into equivalent machine language instructions. Then the CPU executes those machine language instructions. After that, the interpreter reads and translates the next instruction and so on. On the other hand, the compiler translates the entire high level language program into the machine language program before executing it. This optimizes the use of machine language instructions in the translated program. Therefore, normally compiled programs run faster than interpreted programs. The original high level language program is called the *source program*. The compiled program, i.e., the machine language program generated by the compiler after translation, is called the *object program*.

Each high level language uses different instructions to do the same job. Therefore, you require a different compiler and/or interpreter for each high-level language, even for the same computer. That is, the BASIC compiler cannot be used to compile a COBOL program and vice versa.

High level languages enable you to run a program on computers running different operating systems with no or very minor modifications. To do so, all you need is to make minor OS specific changes, if required and compile it under the new operating system. Thus, high level languages help to make programs portable.

1.9.1 Fourth Generation Languages (4GLs)

4GLs are special programming languages that are one level above the high level languages such as COBOL, FORTRAN, Basic, etc. (These high level languages are also called *third generation languages*.) The third generation languages are *procedural languages*. Here, the programmer instructs ‘what’ is to be done, as well as ‘how’ it is to be done. On the other hand, 4GLs are *non-procedural languages*. In 4GLs, the program or the user only instructs ‘what’ is to be done, not how it is to be done. For example, the user may simply select the type of report required. The user will not enter the instructions required to prepare that report. That job will be done by the 4GL itself. There are different types of 4GLs, such as Database query languages, Report generators and Application generators. Some of the common 4GLs are SQL (Structured Query Language), Oracle Reports, RPG-II, LINC, Ingress, Sybase, Focus and FoxPro. Developing a program in a fourth generation language is generally faster and requires fewer lines of code, compared to a third generation language.



1.10 APPLICATION PROGRAMS AND CUSTOM SOFTWARE

For solving a particular problem, programmers develop programs using programming languages. Many times, different organizations want to solve the same (or almost same) problem using computers. For instance, the process of generating payrolls is same in all offices of the Central Government. Similarly, if two branches of a bank want to computerize the fixed deposit accounts, they will end up developing almost the same program. In the past, lots of programming efforts were wasted in duplicating the same programs. To avoid this duplication, some software development houses started developing *application programs* (also called *application packages*). Now, thousands of application programs are available for applications such as word processing, payrolls, inventory controls, accounts, invoicing, ticket reservations, banking, income tax planning, education, engineering design, etc.

Sometimes, the requirements of a particular organization are such that a general-purpose application program cannot meet these. In that case, that organization has two options. First, it can develop the programs in-house. Second, it can ask some software development company to develop a program that can meet its special requirements. When a software development company develops software to meet the specific requirements of a particular organization, it is called *custom software* or *custom-built software*.

1.10.1 Shareware, Freeware, Public Domain and Open Source Software

When you need to use a new software program on your PC, you need to load it on. Most software programs developed by large and medium software companies are available for purchase in software stores or on their websites. Packaging software programs and selling through software stores requires huge investment that small companies and individual software developers cannot afford. They try to distribute their programs through their websites as *shareware* or *freeware*. As the name freeware suggests, it is absolutely free. The user can just download the program from the website and use it.

Shareware programs are slightly different from freeware programs. They are available on the Internet for download and for free trials. At the end of the free trial period, if you like the program, you are required to register the program and pay a small fee to the software developer. When you pay the fee and register, the software developer may send you the latest version of that software. If you do not like the program, you need not register and need not pay anything. Some shareware programs automatically stop functioning when the free trial period ends, whereas others continue to work forever. Sometimes, some options in the shareware program may work only after you pay for it.

Nowadays, commercially available software packages cost a lot of money. Many a times, cost of the software exceeds the cost of the hardware. This is one of the reasons for high level of software piracy in some countries. To enable users to get quality software for free, some software developers as well as organizations put their work in *public domain*, i.e., everyone is welcome to use it. Basically, public domain software and freeware are free to use. However, the term freeware is normally used with small software programs which are usually offered without the source code, whereas public domain software is usually associated with operating systems, programming languages, database management systems, servers, etc., usually offered with source code. Sometimes, public domain software is also called *free domain software*.

Some of the popular quality software are available in public domain include Linux operating system, PHP, Perl, Java, Apache web server, MySQL Database Management System, WordPress, Drupal, Apache OpenOffice, LibreOffice, etc. Many of the software in public domain were initiated by University students as projects and later other software developers continued to develop these projects.

Linux and Perl fall in this category. These kinds of software are also called *open source software*, because the software source code is open to anyone for viewing, modifications and improvement.

You can download public domain software from the corresponding website for free, however, some companies package and sell this software for a price. Linux operating system, one of the most prominent examples of the development of an open source initiative, is packaged and sold for a reasonable price by several commercial companies. Usually commercial organizations that need technical support and training buy the packages public domain software.

1.11 NETWORKING CONCEPTS



Initially, when big organizations started using computers, these were *standalone*. However, as the use of computers started increasing, people felt the need to connect different computers to exchange information and to share costly resources, such as high-speed printers, disk drives, high-speed card readers, etc. In the beginning, different computers located in different floors or building in the same campus were interconnected. The communication lines used to interconnect the computers were private. This kind of network of computers that uses a fast private communication link is called *local area network* (LAN). Usually a LAN is restricted to a small area up to a radius of 10 kilometres. In a LAN, the computers may be connected in different configurations, such as ring, star, multidrop or fully interconnected. The LAN may use different communication media, such as twisted-pairs cable, coaxial cable, fiber-optic cable, microwave link, etc.

When computers that are physically located in different parts of a city or even in different cities or countries are connected together, they usually use a public telecommunication network (e.g., phone lines). This kind of network that connects widely spread computers is called *wide area network* (WAN). Like LAN, WAN can also use different communication media, such as telephone lines, fiber-optics lines, microwave links, and satellite links.

The Internet is a worldwide network of computers, where different computers communicate to each other using a common *protocol*. The concept of Internet is discussed in detail in Chapter 8. An internal network of a company that has an interface similar to Internet is called *Intranet*.

1.12 COMPUTER NUMBERING SYSTEMS



The human beings feel comfortable in working in the decimal number system. However, when the scientists started designing digital computers, they opted for *binary number system*. In binary number system, there are only two states—0 and 1. These are also called binary digits or *bits*. It is very easy to design a two-stage system, e.g., a switch is closed or open; a light bulb is on or off; current is flowing through a circuit or not, so on and so forth. Now, one of these two states may be called 0 and the other 1. The use of binary number system in digital computers has made the design of digital computers very simple. Since all digital computers use the binary number system, let us understand this numbering system.

In the binary numbering system, all numbers are represented using zeros and ones. We use 0 and 1 in binary number system to represent decimal numbers 0 and 1, respectively. How do we represent decimal number 2 in binary form? In binary number system, 2 is represented by '10' and 3 by '11'. Table 1.1 displays binary equivalents for a few decimal numbers.

Table 1.1 *Binary equivalents of a few decimal numbers*

<i>DECIMAL NUMBER</i>	<i>BINARY NUMBER</i>
0	0
1	1
2	10
3	11
4	100
5	101
6	110
7	111
8	1000

Besides the binary number systems, other numbering systems used in computers include *octal* (base 8), *binary-coded decimal* (BCD) and *hexadecimal* (base 16, 0 – 9, A, B, C, D, E and F). The hexadecimal number system is a human-friendly representation of binary coded data, e.g., 10101001 is represented by A9 in the hexadecimal numbering system.

American Standard Code for Information Interchange (ASCII) is a standard for interchanging information between computers or between a computer and peripherals, such as printer or terminal. The ASCII codes use 7-bit or 8-bit binary number to represent different characters. The standard ASCII codes use 7-bit code, which gives 128 combinations. These combinations include all uppercase and lowercase letters, the numbers 0 through 9, punctuation marks, and special characters used in English. However, 128 combinations do not include several letters used in other languages and graphic symbols. To include additional 128 combinations, ASCII codes were expanded to use 8-bit codes. These codes are called *Extended ASCII*. Most modern computers and peripherals support Extended ASCII.

1.13 PERSONAL COMPUTER



A typical personal computer (PC), shown in Fig. 1.8 consists of the following units:

1. CPU Box (System Unit)
2. Keyboard and Mouse
3. Video Display Unit (Monitor)
4. Floppy Disk Drive(s)
5. Hard Disk Drive(s)
6. Compact Disk (CD)/DVD Drive

Normally, a PC also has a printer. Your PC may also have other devices such as scanner, speakers, webcam, etc.

The computer shown in Fig. 1.8 is called a *desktop PC*. For people, who want to carry their PC with them; the lighter version is called a *Laptop*. The Laptop, also called the *Notebook PC*, uses special lightweight components that consume less power so that it can run on a battery. The laptop uses a build-in LCD (Liquid Crystal Display) and keyboard, though one can attach external display units and keyboard. Figure 1.9 displays a typical laptop.



Fig. 1.8 *A typical personal computer*



Fig. 1.9 *A typical laptop*



Fig. 1.10 *A typical Netbook PC*

For people who do not need all the features offered by a typical laptop, a scaled-down version called the *Netbook PC* is available. The Netbook PC contains a small size screen and usually does not contain the CD-ROM drive. However, it is good for most typical PC uses, including word processing, web-surfing, emailing, etc. A typical Netbook PC is shown in Fig. 1.10. In case of laptops and netbook PCs, all hardware components are housed in a single unit, whereas in the case of a typical desktop, they are in separate units.

1.13.1 CPU Box (System Unit)

The CPU box, also known as the System Unit houses the heart and brain of the computer. All electronic circuits, power supply, floppy drive(s) and hard disk drive(s) are housed in this box. The shape and size of the box may differ from computer to computer. However, they all have the similar electronic circuits and parts inside. The main printed circuit board (PCB) that contains the CPU, graphics controller, other input-output (I/O) controllers and slots for installing memory and other cards is called the mother board. These boards are not visible from the outside. The CPU box also houses hard disk drive(s) and the floppy disk drive(s) that form the secondary memory. Compact Disk (CD-ROM) drive is also

generally kept in the CPU box. The back and/or front of the CPU box contain connectors to connect the keyboard, mouse, printers, monitors, etc.

1.13.2 Keyboard

The keyboard of a computer looks quite similar to the keyboard of a typical typewriter. The computer keyboard may have 84, 101 or 104 keys. A typical PC keyboard is shown in Fig. 1.11. The keys on the computer keyboard are arranged in the same order as on the keyboard of an ordinary typewriter. However, there are a few additional keys on the computer keyboard as explained below.

Ctrl The Ctrl (Control) key is normally located on the left-bottom corner of the keyboard. This key is also called the *super-shift* key. Its function is quite similar to that of the Shift key, i.e., if you press and hold Ctrl key and then press another key, your computer may type a different keystroke or perform a special function. This key is used extensively with most programs, including Microsoft Word and Excel. The Ctrl key is usually represented by the ^ symbol, i.e., ^B means—press and hold the Ctrl key, press B, and then release both keys.




Fig. 1.11 PC Keyboard

Alt The Alt key is normally located on the left side of the spacebar key or the Shift key. As its name suggests, it is an alternate shift key. This key is used in combination with other keys to perform a specific function. For instance, Alt can be used to reset your PC, if you press it in combination with Ctrl and Del keys. Alt can also be used to type special symbols, such as ¥, © and ™.

Tab The Tab key found on the keyboard of the PC is similar to the Tab key used on the ordinary typewriter, and is used for the same purpose. When you press this key, it moves the *cursor* in the forward direction to the next tab stop position. (Cursor is explained later in this section.)

Function Keys There are 10 or 12 function keys located on the top or the left side of the keyboard. These are numbered as F1 through F12. The function keys are programmable keys and each application (e.g., Word, Excel and FoxPro) can use these keys for a specific purpose. For instance, the F7 key may be used to spell check the document.

Caps Lock The Caps Lock key is used to automatically type all alphabets in upper case without pressing the Shift key. Usually, the keyboard provides a visual indication through a light emitting diode (LED) when you select the Caps Lock mode. To cancel the Caps Lock mode and to bring the keyboard back to the normal mode, press the Caps Lock key again.

Enter The Enter key is analogous to the carriage-return lever on the typewriter keyboard, except that it takes the cursor to the next line on the Video Display Unit of the PC. This key is sometimes also called the Return key. On some keyboards, this key is also marked as .

Del and Backspace The Del and Backspace keys are used to delete keystrokes.

Ins and Esc The Ins key is used to select the insert or the overtype modes in the keyboard. The Esc key is a special key that may have different functions in different programs.

Numeric Keypad The computer keyboard has an extra numeric keypad located on the right-hand side. This keypad contains keys to enter numbers. The same keys can also be used as direction keys to move the cursor. If you want to use this keypad to enter numbers, press the Num Lock key to select the Num Lock mode. To cancel the Num Lock mode and to use these keys to move the cursor, press the Num Lock key again.

Direction Keypad The direction keypad is usually located on the left side of the numeric keypad. This keypad contains keys to move the cursor in a particular direction or to the beginning or end of the page (screen).

Windows Keys If you are using a Windows keyboard, your PC may have some special keys, such as the Windows Logo key and the Properties key. These keys have special functions in Windows, e.g., to open the Start menu and to display the right-click menu.

1.13.3 Video Display Unit (VDU)/Monitor

Video Display Unit (VDU) which is commonly known as monitor is used by CPU to display a wide variety of information, such as text, pictures, graphics, video, animations, icons, etc. (Icons are little pictures that represent commands, application program, files, folders, printer, etc.) There are two types of monitors—a cathode-ray tube (CRT) similar to that used in an ordinary television and slim liquid-crystal display (LCD) monitor. The CRT monitors are fast become obsolete and most new PCs and Laptop/Netbook PCs use LCD monitors. Monitors are available in various sizes ranging from 8 inches to 50 inches. Some monitors have built-in TV tuner and can also work as a TV. An LCD monitor is shown in Fig. 1.12.

The amount and quality of information you can see on a monitor depends on its dot pitch, pixel (picture element) and the video adapter card used in PC. Since 2000, most computer monitors are SVGA (Super Video Graphics Array) color or better. The SVGA monitor has a resolution of 800 pixels by 600 rows, commonly referred to by 800 × 600 and displays up to 16 colors. These days most monitors can display thousands of colors and have a resolution of 1024 × 768 or higher. A higher resolution monitor is recommended for graphic applications.

Cursor When you use a monitor to display a text document being typed, it displays the current typing position through a special character, called the *cursor*. The cursor can have different shapes in different programs. However, its usual shape is a blinking/non-blinking vertical I beam, the underscore character () or the solid rectangle. The cursor is shown on the monitor where the next typed (keyed-in) character will be accepted and displayed. When you type a character, it is displayed at the cursor position and the cursor advances to the next position on the monitor.



Fig. 1.12 An LCD monitor

Mouse The mouse is a device that is used extensively in Windows-based programs. The mouse acts as an interface between the PC and the user. You can use the mouse as an alternative to entering commands through the keyboard—to start a program, open a document, move the cursor, select options and to execute commands. The mouse can have different shapes and sizes. A typical mouse is shown in Fig. 1.13. A mouse may have two or three buttons and is connected to a *Serial* or *USB* (Universal Serial Bus) port of the PC.



Fig. 1.13 A typical mouse

The mouse is kept on a flat surface. When you move the mouse on the surface, the *mouse pointer* also moves in the same direction on your monitor. Thus, you can move the mouse pointer on the desired command or option displayed on your monitor. To select the command or option, press the corresponding mouse button and then release it. Pressing the mouse button is also called *clicking*. At most times, the left button is used to select commands or options. The right button is usually used by programs to display a shortcut menu to choose an option.

For starting (launching) a program, closing an open window, opening a directory or to select a word, you may be required to *double-click* the mouse button. Double clicking requires pressing the left button rapidly twice. You might require some practice to get the feel of double-clicking the mouse. Usually the mouse also contains a scroll wheel in the center which may be used to quickly scroll a document displayed on the screen.

Usually, a mouse is connected through a wire to your PC; however, *wireless* mouse is also available. In early 2000s, a typical mouse used to be of mechanical type, which contained a rubber ball on the bottom. When the mouse was moved, the ball rolled in the same direction, which in turn moved other mechanical components in the mouse to generate electrical signals. However, after some use, dust enters inside the mouse and mouse movement becomes jerky, requiring periodic cleaning to make the mouse work properly. However, these days, most PCs use an *optical mouse* that uses light-emitting diodes (LEDs) and special optical components to detect mouse movement. An optical mouse can be used on a variety of surfaces with ease.

The mouse is generally not used with Laptop/Netbook PCs, which have a special area called *touchpad*. When the user moves a finger on the touchpad, it moves the pointer on the monitor in a relative manner. The touchpad area also has buttons to serve like the standard mouse buttons. Besides, you may also be able to click or double-click by tapping the touchpad surface by your finger.

Floppy Disk Drive and Diskette Until 2008, the *floppy disk drive* was an important input/output (I/O) device in the PC. (The I/O device is used for inputting (reading) and storing (writing) information.) The PC may contain one or more floppy disk drives. The floppy disk drive is a storage device. It stores information (documents) on the *floppy diskette* that is inserted in the floppy disk drive. The floppy diskette is usually called floppy disk or disk. The PC stores all types of information, such as letters, computer programs, spreadsheets, databases, etc., on floppy disks. When the PC requires the information stored on floppy disks, it reads the information back through the floppy disk drive. In other words, the floppy disk drive is a storage or reading/writing device and the floppy disk is storage medium. If you do not need the information stored on a disk any more, you can erase it. In this way, you can make room for new information on the same disk.

The floppy disk is a flexible plastic disk that has a magnetic coating on one or both sides. This plastic disk is enclosed inside another square plastic jacket. Two types of floppy disks are used in PCs:

1. 5.25" Floppy Disk (Mini Floppy Disk)
2. 3.5" Floppy Disk (Micro Floppy Disk)

A mini floppy disk is shown in Fig. 1.14 and a micro floppy disk in Fig. 1.15. As micro floppy disks are more reliable, the mini floppy disks have now become obsolete. Even, micro floppy disks are rarely used on new PC these days.



Fig. 1.14 A 5.25" mini floppy disk



Fig. 1.15 A 3.5" micro floppy disk

Hard Disk Drive Unlike a floppy disk that is flexible and removable, the hard disk drive used in the PC is permanently fixed. When hard disk drives were initially used in PCs in 1980s, their storage capacity was about 10 MB (10,000,000 bytes or characters). The hard disk storage capacity have has increased steadily since then. These days, most PCs have hard disk capacity of at least 80 GBs. (Giga Bytes; 1GB = 1000 MB). Nowadays, hard disk capacities of 160 GB, 320 GB, 500 GB, 640 GB and 1000 GB (1 TB) and higher are common. The data transfer rate between the CPU and the hard disk is much higher compared to that between the CPU and the floppy disk drive. The CPU can use the hard disk to load programs and data as well as to store data. The hard disk is a very important input/output (I/O) device. It does not require any special care except that one should operate the PC in a dust-free and cool room (preferably air-conditioned). Modern hard disk drives are very compact, just 2.5–3.5 inches wide with recording surfaces and tiny heads inside a sealed box. Figure 1.16 displays an opened 500 GB hard disk with its recording surface and head exposed. The hard disk shown in Fig. 1.16 is also called internal hard disk drive as it is mounted inside the CPU box or laptop. Besides, there is another type of hard disk drive, called *external hard disk drive*, which is kept outside the CPU box/laptop and is connected to it though a USB cable. The external drives have storage capacities of 500GB and higher, and are normally used to backup data from the internal hard disk and other sources. Figure 1.17 displays a 3 TB (Terabyte) capacity external hard disk drive.



Fig. 1.16 An open hard disk drive



Fig. 1.17 An external hard disk drive

Compact Disk Drives—CD and DVD You have used compact disk (CD) to listen to audio music. CDs are also used in a PC in to store data. Data CDs used in a PC are similar in shape and size to the audio CD. Unlike floppy disks that use the magnetic technology to store data, the CD uses the laser optical (laser) technology. Due to the laser technology, CDs can hold huge amount of data in the range of 650 to 700 MB. The computer CD is used to load computer programs and other data into the hard disk of a PC. You can also use CD to store audio and video information. Most of the new computer programs are now available only on CDs. Sometimes, programs are directly run from the CD. The PC may also directly read the data stored on the CD at the time of running a program. The drive in your PC that reads information from a CD is called CD-ROM (Read Only Memory) drive. These devices were called CD-ROM because initially when these drives were introduced in PCs, they could only read CDs and had no writing capabilities. So, these drives were used as an input device.

Around 2001, recordable CDs (called CD-Rs) started becoming common for use in PCs. You can record data only once on a CD-R. The other type of CD that allows you to write several times is called compact disk rewritable (CD-RW). The drive that can record or write data on a CD-R or CD-RW is called CDRW-ROM drive. Unlike a floppy disk, you cannot erase data from a CD-R and write new data. However, as CD-Rs are quite cheap and they offer huge data storage capacity, their use in PC as data storage and backup has become quite common. As CD-Rs have become quite common and even the cost of CDRW-ROM drives have come down significantly, most new PCs come equipped with a CDRW-ROM drive. A CDRW-ROM drive acts like an I/O device in the PC. A CD-ROM/CDRW-ROM drive can also play regular audio CDs. These drives have a built-in jack for an earphone so that you can listen to audio CDs even if your PC does not have external speakers.

Since 2004, most new PCs offer a DVD (Digital Versatile Disc/Digital Video Disc) drive that can use a DVD disk. The DVD disk offers a data storage capacity of 4.7 GB, which is almost nine times of the data storage capacity of a CD. Besides storing data on recordable DVD disks, the DVD drive available on a PC may also be used to watch regular DVD movies and other programs on the PC.



Fig. 1.18 A DVD/CD rewritable drive

Your PC may have separate CD and DVD drives or a two-in-one drive that can play/record CDs as well as DVDs. Figure 1.18 displays a DVD/CD rewritable drive that can read and record CDs as well as DVDs. The drive is mounted inside the CPU box and only the front part of the drive is visible from outside.

Blu-ray Drives and Disks The Blu-ray disks are very high capacity optical storage medium. They are similar to DVDs and CDs in physical dimensions but have storage capacity of 25 to 100 GB. These are called Blu-ray because a blue-violet color laser is used in the read-write head in the drive. In the beginning, these were used for playing very high quality feature films, however, as reasonably priced recordable Blu-ray disks appeared, PC manufacturers started using them in PCs to play high quality video as well to store large amount of data. The PC may have a built-in Blu-ray drive or there

may be an external Blu-ray drive connected through an USB cable. Figure 1.19 displays a Blu-ray drive and disk.



Fig. 1.19 A Blu-ray drive and disk

1.14 OTHER TYPES OF COMPUTERS



Personal Digital Assistant (PDA), also known as palmtop computer, Tablet computer and E-book reader are other types of computers preferred by those who want to carry their computers with them. PDA is a small handheld device which has productivity software applications, such as contact list, calendar, notepad and calculator. The PDA lacks several common software applications found on a typical PC; therefore, it has limited use. Figure 1.20 displays a PDA.



Fig. 1.20 A Personal Digital Assistant (PDA)



Fig. 1.21 iPad, a tablet computer

A *tablet computer* is a smaller version of a laptop PC. Though tablet PCs have been around for many years, in 2010, Apple Inc. revolutionized the tablet market by introducing a new product called *iPad*, shown in Fig. 1.21. The tablet computer has a flat touch screen also works as an on-screen virtual keyboard. By removing other hardware, such as CD-ROM drive and mouse touch pad, iPad became quite light, thin and easy to carry. The iPad and other similar devices introduced later by other

manufacturers are quite powerful and can serve the typical needs, such as web browsing, emailing and document-editing of a common user with ease. *Aakash* developed under the Government of India initiative also falls under the tablet computer category.

An e-book reader is a special type of tablet computer that has been optimized for readability in bright light and long battery life up to a month or more. While originally, these devices were developed for the sole purpose of reading books, the new generation e-book readers have capability to browse the Internet, play music, send and receive emails and open PDF and Word documents. An e-book reader is shown in Fig. 1.22.

These days, *smartphones* have become so powerful and user-friendly that they are being used to perform several tasks, such as contact lists, calculator, calendar, emailing and web browsing, which were, until a few years ago done on a typical PC. Smartphones are improved versions of PDAs and offer the same features, besides also having the capability of making phone calls. Therefore, PDAs are gradually becoming obsolete. Figure 1.23 displays a typical smartphone.



Fig. 1.22 *An E-book reader*



Fig. 1.23 *A smartphone*

1.15 OTHER INPUT/OUTPUT DEVICES USED WITH PCS



There are several other input/output devices, such as USB Flash drive, printer, zip drive, webcam, scanner, trackball, joystick, speakers, microphone, modem, router and card reader. Some of these devices are commonly used with PCs whereas others are used for specific applications. These input/output devices are explained in brief in this section.

1.15.1 USB Flash Drive

USB flash drive, commonly known as USB memory has replaced floppy disks because of their compact size, light weight, high data storage capacity and reasonable price. A USB flash drive, shown in Fig. 1.24 contains a semiconductor flash memory data storage device and a USB interface. USB flash drives come in various capacities ranging from a few MB to 64 GB. It is expected that in the near future, even higher capacities USB flash memories will be available. USB memories have reasonably fast data transfer speed; therefore,



Fig. 1.24 *A USB flash drive*

transferring files to and from these devices does not take a long time. USB flash memories are fast becoming a preferred device for data backup for home and small business PCs.

1.15.2 Printer

The printer is an output device that is used to print documents on paper. Various kinds of printers are used with PCs. A few years ago, the Dot Matrix Printer (DMP) was the most commonly used printer with PCs because of its low cost and reasonably good speed. The print head in a DMP contains a few tiny needles. There are 7 or 9 needles in a low quality DMP and up to 24 needles in a high quality DMP. At the time of printing, as the head moves from one end of the paper to the other, these needles are fired selectively to print different characters or graphics. Dot Matrix Printers usually have a printing speed of 100 to 500 characters per second.

Nowadays, InkJet/BubbleJet printers are also the popular choice for use with PCs. These printers offer good print quality and noiseless operation. These are non-impact printers that print characters and graphics by spraying very tiny drops of ink directly onto paper. The print quality of these printers is much better compared to DMPs. The typical print quality of these printers is from 300 dots per inch (DPI) to 4800 DPI. Most of these printers can also print in color. An inkjet printer is shown in Fig. 1.25.



Fig. 1.25 *InkJet printer*



Fig. 1.26 *Laser printer*

Laser printers are also being commonly used with high-end PCs; particularly those used for Desktop Publishing (DTP). They provide very high quality printout, typically in the range of 300 DPI to 2400 DPI; however, these are costlier than DMP and InkJet printers. The typical printing speed of laser printers is between 3 to 30 pages per minute. High-end laser printers can also print in color. A laser printer is shown in Fig. 1.26.

Line printers, drum printers and chain printers are some other types of impact printers. These printers are high-speed printers that can print up to 6000 lines per minute. These printers are generally used with mini or mainframe computers, and are not as popular with PCs.

Each printer has its own style of loading paper and ribbon/ink cartridge in it. If you face any problem in loading paper or ribbon/ink cartridge, refer to the printer manual or contact your printer supplier/vendor. Printers are connected to PCs through serial, parallel or USB interface. Some printers may offer more than one interface.

1.15.3 Scanner

The scanner is an input device that is capable of recognizing text or graphics on the input document. The most common scanner used with a PC is called the *flatbed* scanner (see Fig. 1.27). In this scanner, the document is placed facing down on a flat sheet of glass. A laser-based scanning mechanism moves under the glass from one end to the other to scan and convert the document into a digital form. You can use a scanner to convert a photograph or drawing into a computer file. After an image has been converted into a file, it can be printed or used along with some other document. For instance, you can scan the logo of a company in a graphics file. Later, you can print it at the top of letters. Though generally not used with PCs, scanners are also used for various applications, such as:

1. As bar code readers to identify a product. Bar code readers are commonly used in supermarkets and big retail stores at sale counters. As these scanners are normally held in hand, they are called *handheld* scanners. A typical handheld scanner is shown in Fig. 1.28.
2. As magnetic-ink character recognizers (MICR) to sort bank cheques.
3. As optical mark readers (OMR) to automatically evaluate objective-type answer sheets.
4. As optical character readers (OCR) to automatically convert text printed on a sheet into computer text files. OCR uses special software that matches scanned character shapes with stored set of characters to convert scanned document into computer text.



Fig. 1.27 Flatbed scanner



Fig. 1.28 Handheld scanner

1.15.4 Multi-Function Printers

Multi-function printers can perform other jobs besides printing. For instance, a multi-function printer may include a scanner. By printing the scanned document, the printer can act as a copier. Faxing capability is another useful function available in some of the multi-function printers. The printer may include a dial pad to enable the user to send the fax. Of course, the printer can easily print the received faxes since it already has the printing capability. A laser multi-function printer is shown in Fig. 1.29 that can copy, scan and fax.



Fig. 1.29 A laser multi-function printer with scan, copy and fax features

1.15.5 Zip Drive

The zip drive, an I/O device, is a modified floppy drive. The size of the zip floppy disk is the same as that of an ordinary micro floppy disk, though it is slightly thicker. The storage capacity of a zip diskette is several times that of a micro floppy diskette. Zip diskettes are available with different storage capacities, such as 100 MB, 250 MB and even 750 MB. Zip drives, which were popular in 1990s, are rarely used these days. Figure 1.30 shows a 750 MB zip floppy disk.



Fig. 1.30 Zip floppy disk

1.15.6 Webcam and Video Cameras

Webcam (short for Web Camera) is a small digital camera that can take still as well as video images. Figure 1.31 displays a typical webcam. The use of a webcam is limited only by your imagination. You can use it to take pictures that you can include in a document or email pictures to your friends. Webcams are also used to *web cast* events live or for video chat. Some webcams also have zoom feature. Webcams are also used to record video for surveillance purpose. Most Laptop, Netbook and tablet computers have a built-in camera.

Nowadays, most regular digital/video cameras are PC compatible. They have all the capabilities of a webcam, have better resolution picture quality, are easy to use and can be operated away from PC. You can record a video indoors or outdoors and then transfer it to your PC's hard disk.



Fig. 1.31 Webcam

1.15.7 Trackball

Trackball is a pointing device, which is functionally similar to a typical mouse. Trackball is commonly used with laptop computers. A trackball, shown in Fig. 1.32 contains a plastic ball that rests on two rollers. These rollers are positioned at right angles to each other. When the user moves the ball with his/her fingers, it moves the rollers whose motion gets converted into electrical signal to move the mouse pointer on the screen. Like mouse, the trackball also has buttons for left and right clicking. Trackball is functionally similar to mouse, the only difference being how the ball is moved. Whereas in trackball, the ball is directly moved by hand, in mouse, the ball gets moved when mouse is moved on the mouse pad. Though both trackball and mouse are used for similar purpose, pointer movement is more precise in trackball.



Fig. 1.32 Trackball

1.15.8 Joystick

Joystick is a pointing device that is generally used for playing games on PC and other video game machines. Other applications of joystick include control of industrial machines, e.g., cranes. A typical joystick is shown in Fig. 1.33. In a joystick, a vertical stem is attached to a square, rectangular or oval base. The stem, which is held by hand, can be moved in all directions. The control buttons are located at the base or sometimes at the top of the stem. As the stem is moved, the pointer or object moves in the same direction on the screen. When the stem is released, the pointer or object stops moving. The control buttons have different effects in different applications, e.g., pressing a button may fire a gun.



Fig. 1.33 Joystick

1.15.9 Microphone and Speakers

In the modern multimedia PC, microphone (mike) and speakers play an important role. Speakers are used to play audio-clips, songs, etc., and the microphone helps to record an audio sound for online audio chat or making phone calls using the Internet. Both these devices are connected to the back of the PC through cables and jacks. Usually the speakers also have an amplifier to boost the sound. A set of speakers and microphone are shown in Fig. 1.34. Most laptops, netbooks and tablet computers have built-in microphones and speakers.



Fig. 1.34 Microphone and speakers used with PCs

Headphone and Microphone If you want to listen to music without disturbance from external noise, you have use a headphone, which come in all sorts of quality and price range. As computers are also used for making phone calls, several headphones come with a built-in microphone. Figure 1.35 displays a typical headphone with built-in microphone.



Fig. 1.35 Headphone with built-in microphone

1.15.10 Modem, Network Card and Router

It is difficult to imagine a modern PC that is not able access the Internet. A PC can access the Internet in many different ways, such as through LAN (Local Area Network), telephone line, TV cable, or through a wireless connection. The first device that you need to be able to connect to the Internet is the Modem (from **mod**ulator-**dem**odulator) that acts an as interface between the PC and the outside signal carrier. Depending on the type source you want to connect to, there are different types of modems, such a dial-up modem card, DSL (Digital Subscriber Line) modem, Cable modem, etc. A modem may be installed in the PC as a card, or your PC may use an external modem. An internal modem card is shown in Fig. 1.36. This card is installed in the PC and the telephone line is plugged into this modem card. The internal modem card has a speed of up to 56 Kilo bauds (bits/second) and is used for dial-up telephone connections.



Fig. 1.36 56K Internal FAX modem card

For high speed Internet connection, usually an external modem device is used. These external modem provide the output signal as per the Ethernet standard, therefore, your PC must have a corresponding Network card, also called Network Adapter/Interface card. A typical PCI (Peripheral Component Interconnect) Network card, shown in Fig. 1.37 has an Ethernet (RJ45) connector to connect to the modem through an Ethernet (RJ45) cable. The Ethernet cable is also called the Network cable. Your PC may be connected to a LAN; in that case, you may be able to connect to Internet through LAN.



Fig. 1.37 *PCI network card*

In a typical home or a small office environment, we have multiple PCs and would like to provide the Internet access on each PC. Instead of connecting each PC to a separate signal source and modem, the preferred solution is to get a high-speed Internet connection and modem. Then, the modem is connected to a device called *Router* that allows a single internet connection to be shared with several PCs. For best convenience, it is recommended to get a wireless router that enables PCs to be connected in wired as well as wireless mode. A wireless router is shown in Fig. 1.38. A typical scheme of connecting PCs to internet through a modem and router is illustrated in Fig. 1.39. Notice that to connect a PC to a router through wireless, it must have a wireless network card. A wireless network card is usually built-in in a laptop and Netbook PC.



Fig. 1.38 *A wireless router*

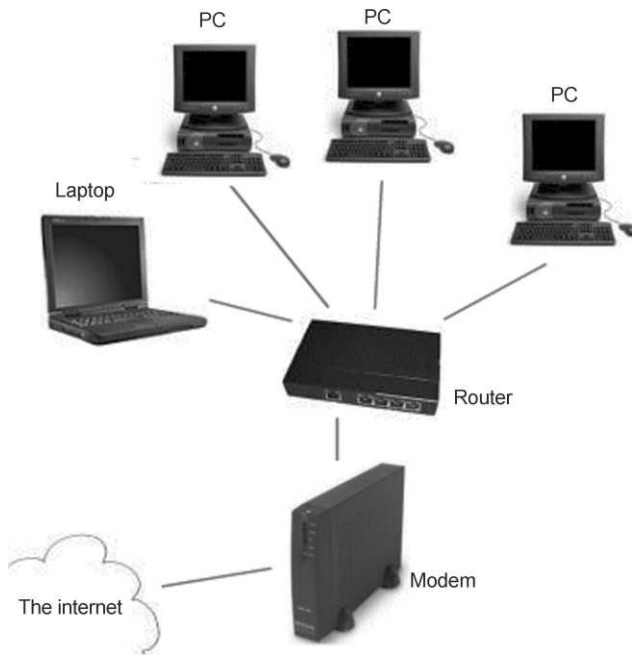


Fig. 1.39 Connecting multiple PCs to the Internet using a modem and router

1.15.11 Card, Keypunch Machine and Card Reader

Though cards (also called punched cards) are almost obsolete, however, until 1970s these were commonly used to feed data and programs into computers. A typical card is made of thick paper and is about 3 inches in height and 7 inches long. Each card has 80 columns and 12 rows. By punching holes in different row positions, each column can represent a specific number, letter or symbol. Basically, each card can be used to store up to 80 characters of data or program. To prepare (punch) these cards, a special machine called the *keypunch machine* was used. This machine is similar to an electric typewriter. When the user presses a key on the keyboard, it punches holes in required rows at the required column position. To read data punched on cards for processing, a machine known as card reader is used.

1.15.12 Digitizer

A digitizer is an electronic device, which is used to extract information from paper drawings or maps, or convert them into electronic form. For example, it can be used to find distance between two points from a construction blueprints drawing. Typically, the drawing or map is placed on digitizer's surface. When you position the electronic pen at any point on the drawing, the micro-grid of X-Y coordinates on the digitizer's surface translates that point into its X-Y coordinates. Thus, you can get coordinates for any point on the drawing. Now if you provide the drawing scale to the digitizer, it can provide the real distance between any two points. The digitizer software can help you to convert paper drawing into electronic forms. Digitizers are available in different resolutions and sizes, such as 24 × 36" or 36 × 48".



1.16 WHAT IS INSIDE A CPU BOX?

If you have been following through the chapter, you have fairly good idea what is inside the CPU box of a PC. In brief, the CPU box contains a Power Supply Unit, Floppy Disk drive, Hard disk drive, CD drive, DVD drive and electronic boards. The main electronic board, which is called the *mother board*, has connectors for connecting internal as well as external devices. The mother board contains the main CPU IC and controllers for controlling most common I/O devices, such as keyboard, monitor, printers, USB devices, etc. To cool the CPU IC, usually a heat sink and a cooling fan is mounted on the CPU IC. For installing RAM memory and other custom hardware, the mother board has spare slots. Thus, one can install the required amount of RAM memory by installing additional memory boards or installing a different set of memory cards. A typical mother board is shown in Fig. 1.40. Notice that the mother board contains a set of connectors that enable external devices, such as keyboard, mouse, monitor, printers, microphone, speakers, webcam, etc., to be connected. The mother board is installed in such a way that most of the connectors are available at the back of the CPU box, though some USB connectors may also be available at the front for the ease of use. Since the electronic components inside the CPU box are very delicate and may easily get damaged even when just touched by bare hands due to the static electricity, opening and servicing the CPU box should be avoided, unless all the precautions are followed.

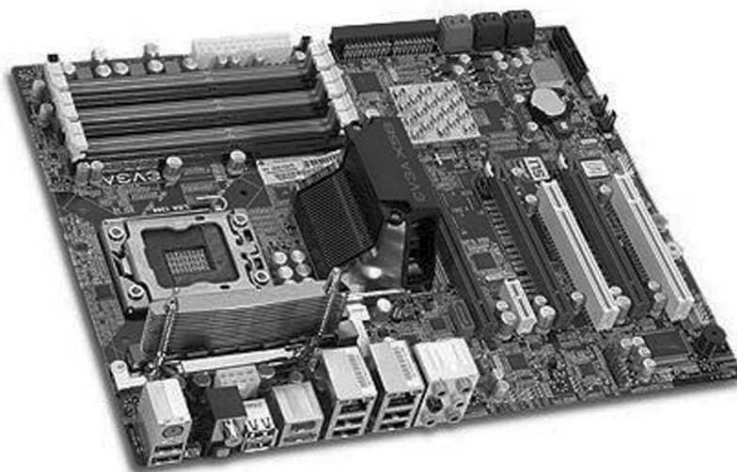


Fig. 1.40 A mother board used in a PC



1.17 SETTING UP AND STARTING THE PC

If you need to setup a new PC, open all boxes and remove the contents. Visually inspect the contents to ensure that there was no damage during transportation. If all contents are in good shape, place the CPU box on or under the desk, and the monitor on the desk. If possible, connect the monitor power cord in the socket provided at the back of the CPU box. Then connect the monitor video cable to the corresponding connector at the back of the CPU box. Usually, the connectors at the back of the CPU are clearly marked and most connectors won't go in the wrong place, but still be careful that you don't

attempt to force the connectors in the wrong place. Most new keyboards and mouse come with the USB interface. In that case, these may be connected to any USB port. On the other hand, if your keyboard and/or mouse have old-style (PS/2) connectors, carefully connect these to the corresponding connectors at the back of the CPU box. In the same way, connect the printer to a serial, parallel or USB port.

The microphone and speaker cables and jacks are almost similar in size and can easily get mixed-up. Therefore, when connecting them, be extra careful. Usually the speaker and microphone connectors are coded with different color.

After you have done all connections, connect the CPU box power cord to the Constant Voltage Transformer (CVT) or an uninterruptible power supply (UPS) source. Whereas a CVT can take care of the voltage fluctuations in the power line, a UPS, besides providing stable power, will also ensure that the PC continues to work when the electric power fails. Depending on the batteries installed in the UPS, it may continue to power the PC from a few minutes to hours, but in any case will give you a chance to save your work and gracefully shutdown the PC. However, if you do not have a CVT or UPS, at least use a *surge-protector*, which can protect your PC from voltage spikes.

After making all connections, press the power-on button usually located at the front of the CPU box. After power on, the PC performs a Power-on Self-Test (POST) to ensure that critical components of the PC, including the memory are working correctly. The main jobs of POST are handled through BIOS (Basic Input/Output System), a small set of program stored in a permanent memory. The BOIS is the first program run when the PC starts. The BIOS check that all basic operations, such as floppy disk, hard disk, video display units, RAM memory and other hardware is working correctly. If the PC encounters any errors during POST, it provides a suitable error codes through beeps or displaying the error code on the monitor. If everything is fine, it proceeds to load the operating system (OS), usually from the hard disk, and you will see the OS, usually Windows opening screen on the monitor. Depending on the Windows setup you may be required to provide a username and password to access the PC. After you have provided a valid username and password, if required, Windows gives you the access to the PC. Now you are in the full control of the PC. Figure 1.41 displays a typical Windows

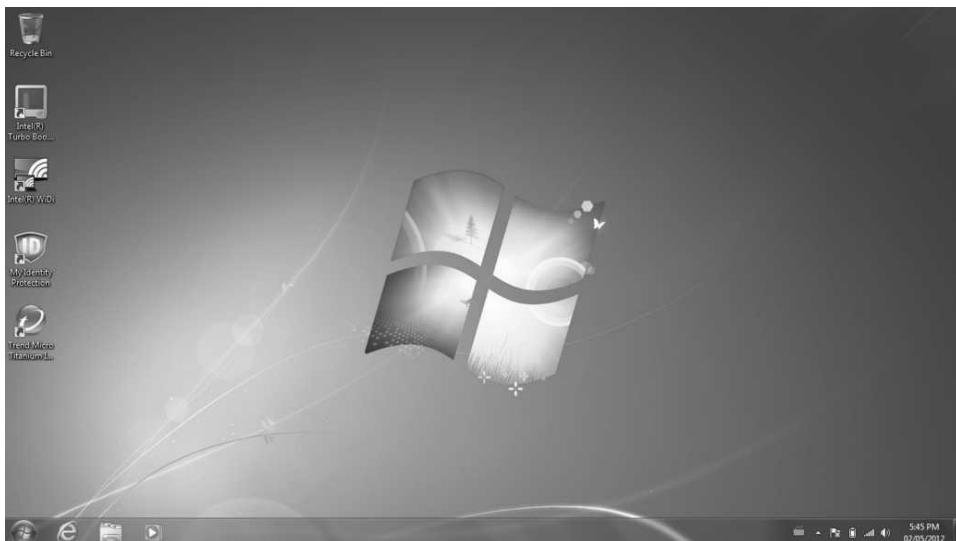


Fig. 1.41 Windows Desktop



screen on Windows 7. Since you might be using a different Windows version, and the Windows screen is highly customisable, the screen that you will see on your monitor may be significantly different from that shown in the figure. Basically, the screen consists of a few icons that represent programs or folders, a customisable background, and a taskbar at the bottom of the screen. The taskbar contains a Start button, details about open windows, buttons to start common programs, current time and other information. This will be discussed in detail in the next chapter.

USING WINDOWS

In this chapter, we will discuss the following topics:

- ◆ *History of Windows*
- ◆ *Starting Windows*
- ◆ *The Desktop and Using the Mouse*
- ◆ *What is a Window*
- ◆ *Maximizing, Minimizing, Restoring, Closing, Moving and Resizing a Window*
- ◆ *Using the Start Menu*
- ◆ *Shutting Down, Restarting and Logging off Windows*
- ◆ *Customizing Desktop: Gadgets, Themes, Screen Saver, Screen Resolution and Using Multiple Monitors*
- ◆ *Control Panel and Taskbar*
- ◆ *Managing Multiple Windows: Windows Flip, Aero Peek, Aero Snap and Aero Shake*
- ◆ *Windows Explorer: Libraries, Rename, Copy, Delete, Move Files and Folders*
- ◆ *Searching for Files and Folders*
- ◆ *Compressing (Zipping) Files and Folders*
- ◆ *Recycle Bin*
- ◆ *Burning Files to a CD or DVD*
- ◆ *Getting Help*
- ◆ *Installing USB Devices, and Printers*
- ◆ *Downloading, Installing and Uninstalling a Program*
- ◆ *Windows Updates, Using System Tools and User Accounts*
- ◆ *Notepad, WordPad, Calculator, Paint, Snipping Tool and Sticky Notes*
- ◆ *Creating Shortcuts on Desktop*
- ◆ *Windows Media Player*
- ◆ *Windows Essentials*



2.1 HISTORY OF WINDOWS

The operating system for Personal Computers (PCs) in the early 1980s was DOS (Disk Operating System), a single user, *character-based* operating system. Microsoft Corporation started working on developing a graphical user interface (GUI) for PCs in 1983. Microsoft came out with a few versions of Windows, such as Windows 1, Windows 2.0 and Windows 386 during 1985–1988, however, these versions did not become popular. Windows 3, announced in 1990 was the first Windows program that was accepted by the users and software developers on a large scale. In 1992, Microsoft Corporation announced Windows 3.1, the enhanced and updated version of Windows 3. Windows 3.1 (or its variations, such as Windows 3 and 3.11) is not a full-fledged operating system. It is a program that runs over DOS. It enhances the power and use of a PC running DOS in the following three ways:

1. It converts the plain character-based user interface provided by DOS into a *Graphical User Interface* (GUI). It makes the use of computers easy as users are not required to remember and type commands. Instead, users can click the little pictures (called *icons*) that represent commands to run programs.
2. It provides *multitasking* capabilities to the PC. A PC running DOS can run only one task (program) at a time. For instance, you cannot simultaneously run word processor and spreadsheet program on a DOS-based PC. However, Windows converts a PC that could run just one program into a PC that can run two or more tasks simultaneously.
3. Unlike DOS, that displays information in characters of the same size, Windows can use different *fonts*, i.e., different shapes and sizes of characters can be displayed and printed. TrueType fonts introduced in Windows 3.1 appear the same on the monitor as well as on the printed page.

Besides these, Windows provides the basis for a consistent user interface. Windows-based programs behave in an almost identical manner as far the user interface is concerned. That is, the method to move the cursor, select menu items, format text, scroll a document, open and save files, etc., in different Windows-based programs is almost the same.

Whereas Windows 3.1 is not an operating system, Windows NT introduced by Microsoft Corporations almost at the same time, is a complete operating system. The GUI used in Windows NT is almost same as that used in Windows 3.1, however Windows NT is more reliable. Windows NT is very difficult to be corrupted by other programs that do not work properly or crash. Windows NT did not become popular because it needed a lot of hardware resources (CPU power and memory) which were not easily available in PCs in early 1990s.

In 1993, Microsoft introduced another product called Windows for Workgroup. It is the same as Windows 3.1. However, it also contains the required networking software for connecting different PCs without requiring any extra software. In other words, now PCs running Windows for Workgroup can share information and other input/output resources, such as printers.

In 1995, Microsoft introduced Windows 95. Unlike Windows 3.1, Windows 95 is a full-fledged operating system. That is, you do not need DOS to run Windows 95. The user interface in Windows 95 was redesigned, and it introduced *plug and play* that allows the Operating System to automatically detect and configure hardware. Windows 95 was a great success.

Microsoft came out with an updated and enhanced version of Windows 95 in the form of Windows 98. Again, Windows 98 was a runaway success. Microsoft combined Windows NT technology and Windows 98 graphical user interface into Windows 2000 that was released towards the end of 1999.

While Windows 95 and Windows 98 use the FAT (File Allocation Table) file system, Windows NT and Windows 2000 use NTFS (Windows NT File System). The NTFS file system provides improved performance, reliability and better disk space utilisation. In September 2000, Microsoft released Windows Me (Millennium Edition), an upgraded Windows 98 with enhanced multimedia and Internet features. Another useful feature introduced in Windows Me is *System Restore* that allows rolling back of system files and installed programs to previous state if the computers starts failing or malfunctioning after installing a new program or software update.

In October 2001, Microsoft released Windows XP, an updated version of Windows 2000. The “XP” name is short for experience, symbolizing the rich and extended user experiences offered by the operating system. Windows XP also allows multiple user accounts on a single PC, where each user can have separate rights on the PC resources and customise and maintain separate settings. Microsoft released its Windows Vista in January 2007 and Windows 7 in October 2009. The next version of Windows, called Windows 8 was released in October 2012.

In this book, we shall discuss the basic features of Windows 7. Even if you are using Windows 95/98/2000/Me/XP/Vista, many details given in this book are still applicable, though the information on your screen may be different from that shown in the book. Besides providing the basic operating capabilities to your PC, Windows 7 comes with a number of useful programs. It has its own Windows Explorer that can help you to copy and move files, and manage directories. Windows also comes with a number of useful applications, such as a mini word processor (WordPad), a drawing program (Paint), Clock, Calculator, Notepad and system tools to manage hard disks. In this chapter, we shall learn to use common features of Windows.

Windows 7 comes in six editions—Starter, Home Basic, Home Premium, Professional, Ultimate and Enterprise. The Starter edition is normally used on low-end Netbooks. PCs used in homes normally have Home Basic or Home Premium edition of Windows 7. The Professional and Ultimate edition of Windows 7 are normally used in offices or high-end PCs. The Enterprise edition is available only for volume licensing for bulk users. Whereas the high-end Windows 7 editions have a few additional features, can address more physical memory and supports multiple processors, the basic features in all editions are the same.

2.2 STARTING WINDOWS



To start windows, switch on your PC. If your monitor has a power on/off switch, turn it on too and wait for a few seconds. The PC performs POST (Power on Self Test) and tries to start Windows. If it is successful in starting Windows, it either displays the Windows Desktop or you need to *log on* to your account to access Windows. This depends on the Windows version in use and how user accounts are set up. For instance, in a typical multiuser accounts setup on Windows 7, Windows displays user names and icons for all users. On clicking a user icon, Windows logs on to that account, if no password is defined for that account. On the other hand, if a password is associated to a user account, you will be prompted to enter the password before Windows gives you access to the computer. After successful log on, Windows displays the Desktop.

2.2.1 Desktop

The screen that you see on starting Windows is called the *desktop*. Figure 2.1 displays a typical desktop, though the desktop that you would see on your PC may differ considerably from the one shown in the

figure. The desktop provides an interface between you and the applications you can run on your PC or the documents you can work with.

A typical desktop consists of one or more icons and a taskbar. An *icon* is a small graphical picture that represents a document (file), application (e.g., a word processor), folder (directory), device (e.g., a printer or floppy drive), other computers, etc. As shown in Fig. 2.1, each icon has a text label that further explains it. Some of the icons generally found on the desktop include, Recycle Bin, Internet Explorer, Microsoft Word 2010, Microsoft Excel 2010 and Google Chrome. The Recycle Bin icon represents a folder that contains deleted files and folders. The Microsoft Word 2010 icon represents the Word Program. Similarly, other icons usually represent a corresponding program or folder. You will learn about common desktop icons later in this chapter.

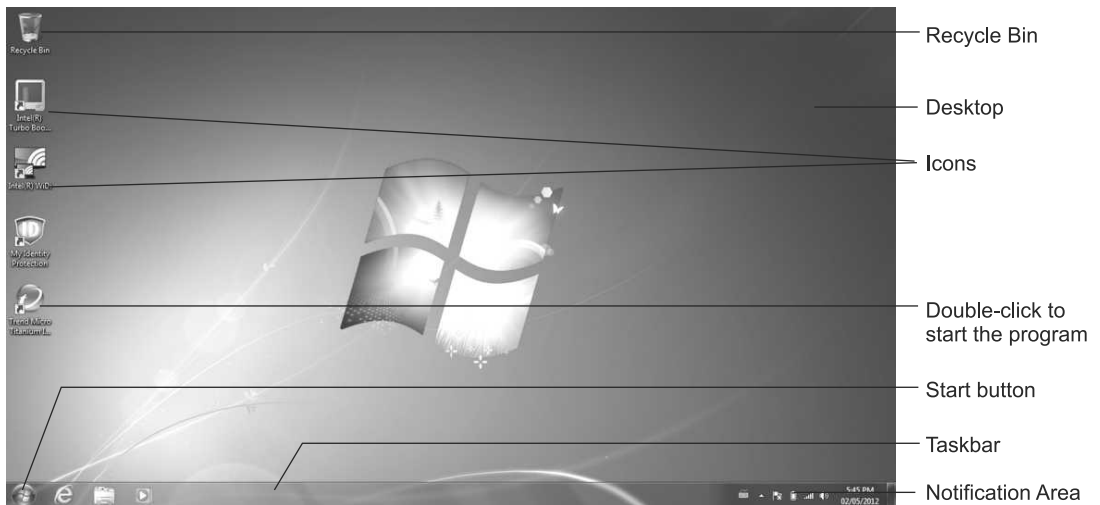


Fig. 2.1 Windows desktop

The long horizontal bar at the bottom of the screen in Fig. 2.1 is called the *taskbar*. It consists of a Start button on the extreme left and the current time and date in the right. The area to the left of date and time is called the *notification area*, where Windows displays activities happening on the PC, e.g., printing status, speaker volume or wireless signal strength. The Start button is used to open the Windows menu to start various programs installed on your PC. The taskbar usually also displays other icons that represent currently open applications or to launch Windows features or other applications. We will discuss the taskbar in detail later. Though Fig. 2.1 displays the taskbar at the bottom of the screen, you may place it at the top, left or right of the screen. In fact, the Windows desktop is highly customizable. As different persons set-up different items, such as pen, pencil, diary, calendar, table lamp, keyboard, etc., on their table differently, Windows allows you to completely customize the desktop. You will learn this very soon. First, let us learn the *user interface*, that is, how to interact with Windows to do various tasks. We will start with how to use a mouse. Even if you know how to operate the mouse, go through the next section, as we will introduce a few Windows concepts in that section.



2.3 USING THE MOUSE

The mouse is used to communicate with your PC. You can use the mouse to start or stop a program, make selections, move objects, run commands, etc. The mouse comes in different shapes. A typical mouse is shown in Fig. 2.2. Your mouse may have two or three buttons.

2.3.1 Moving the Mouse


You hold the mouse with your hand and move it across the flat surface. When you move it across a flat surface, a pointer moves across the computer screen in the same direction. The pointer that moves on the screen is called the *mouse pointer*. The mouse pointer can be of different shapes depending on its installation, the application you are running and its position on the screen. The typical shape of the mouse pointer is a hollow arrow as shown: 



Fig. 2.2 A typical mouse

2.3.2 Clicking the Mouse

Pressing and releasing the mouse button is called *clicking* the mouse. In Windows, clicking is used to select an item, e.g., an icon or a file, or to select text or image in a document. To select an item, say an icon on the desktop, you will move the mouse pointer on the item and click once. When you select an item by clicking, Windows highlights it and shows it in reverse background or a different color. Your mouse may have two or three buttons. Generally, clicking refers to clicking the left mouse button and we will follow the same convention. When we say, ‘click the mouse’, you press and release the left mouse button. In Windows, the middle mouse button is not used. Most applications, e.g., Word and Excel use the right mouse buttons for certain functions. On a Laptop/Netbook PC, you may click the mouse by tapping a finger on the *touchpad* or it may have separate buttons below the touchpad.

Note If you are a left-handed person, you may find it difficult to press the left mouse button. Left-handed persons have an option of swapping the mouse buttons, i.e., after swapping the mouse buttons, the right button attains the functionality of the left. Therefore, if you are a left-handed person and have swapped the mouse buttons, when we say click the mouse button or click the left mouse button, you will press the right button. Refer to Section 2.9.2 to learn how to swap mouse buttons.

Let us practice some clicking. We will try to select the Recycle Bin icon. This icon looks like (refer to Fig. 2.1). The Recycle Bin icon looks different on Windows 98, XP or Vista.



- Move the mouse (or your finger on the touchpad) on the Recycle Bin icon and click once. The moment you click it, Windows highlights the icon as well as its label text. To deselect a selected icon, click any empty space on the desktop.

Windows also provides useful *tooltips* for some icons and buttons on the desktop. Let us explore this.

- Move the mouse pointer on the Recycle Bin icon and wait for a few seconds, and Windows displays a tooltip—“Contains the files and folders you have deleted” or something similar. If you do not get the tooltip, click anywhere on the desktop and try again.

2.3.3 Double Clicking the Mouse


Rapidly clicking the mouse button twice is called *double clicking*. (You may also rapidly click your finger twice on the touchpad for double clicking.) In Windows, double clicking is used quite frequently for various purposes, such as to start an application associated with an icon, select text, open a folder, etc. Let us do some practice with double clicking the mouse.

- Double click mouse on the Recycle Bin icon on the desktop and Windows opens the Recycle Bin window superimposed on the desktop as shown in Fig. 2.3. If the Recycle window does not open, when you double click the mouse, you did not click fast enough. Try to click the mouse buttons rapidly.



Fig. 2.3 The Recycle Bin window on the Desktop

The Recycle Bin window is a typical window. All windows that you will see in Windows will be similar to this. You can resize or reposition any window anywhere on the desktop, or customize the display of its contents and appearance. Now, let us close the Recycle Bin window.

- At the top right corner of the Recycle Bin window, you see a small button that looks like , which is the Close button. Click the mouse on the Close button to close the Recycle Bin window.

2.3.4 Dragging the Mouse

Dragging the mouse means moving the mouse while keeping the left mouse button pressed. Dragging is generally used to move an item. For instance, you can move a window or an icon within a window/desktop by dragging. Dragging is also used in Windows applications to move or copy text, move or copy files, and to draw lines and other shapes. Let us try to move the Recycle Bin icon by dragging it. (If the Recycle Bin window is open, click its close button to close it.)

- Move the mouse pointer on the Recycle Bin icon. Press and hold (keep pressed) the left mouse button, and without releasing the button, move the mouse. A copy of the icon moves with the mouse pointer. You can drag the icon anywhere on the desktop. When you release the mouse button, Windows places the icon at that spot on the desktop.

2.3.5 Using the Scroll Wheel

If your mouse has a scroll wheel, you can use it to vertically scroll the contents of the window. Just rotate the scroll wheel and Windows moves the content of the current active window in the direction of the rotation.

2.4 WHAT IS A WINDOW?



In the previous section, you got some idea about a window when you opened the Recycle Bin window. Typically, all windows look similar. In the Windows operating system, a window may represent several things, such as a document, an application (e.g., word processor or spreadsheet program), a folder (also known as directory/subdirectory), a dialog box (where the user enters some information), etc. You can keep several windows open at a time. Let us have a close look on a typical window. Figure 2.4 displays a Microsoft Word window.

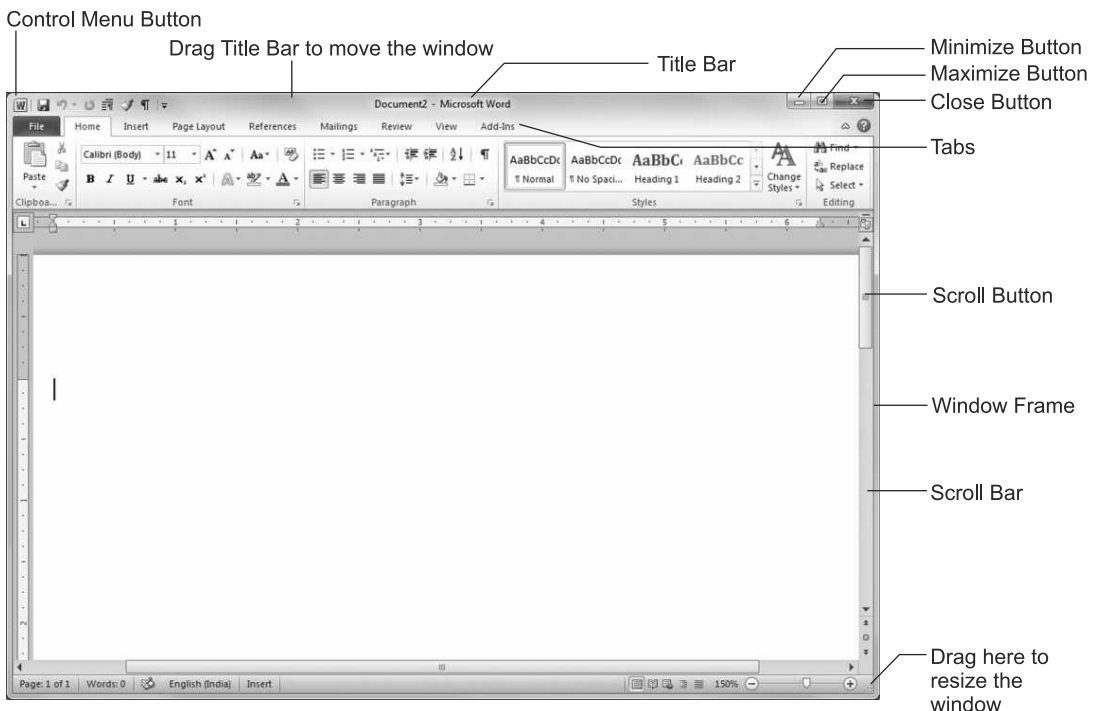
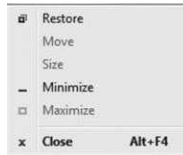


Fig. 2.4 A typical window

The bar at the top of the window, called the *title bar* is used to display the name of the window and additional information, e.g., name of the document, if applicable. In the extreme left of the title bar, there is a Word icon. In fact, this icon is a button, called the *Control Menu* button. On clicking this button, Windows displays a menu that you can use to maximize, minimize, restore, move, resize and close the window, as shown. To close the menu, press **Esc** or **Alt+F4** (press Alt and F4 keys together; do not press the '+' key) or click anywhere outside the menu.






The line below the title bar is called the *tabs bar*. (In Windows XP and prior versions, it is called the *menu bar*.) The tabs bar, which may not be available in some windows contains commands you can use on the current window and its contents. Some windows, e.g., Recycle Bin and Windows Explorer display an address bar below the title bar.


2.4.1 Maximizing, Minimizing, Restoring and Closing a Window


In Windows, every window is in one of the following three states: normal, maximized and minimized. In the normal state, the window can have any size just less than the maximum size of the desktop or its parent window. In the maximized state, the window occupies the entire area on the desktop or within its parent window. On the other hand, in the minimized state, the window is reduced to just a button on the taskbar or a small title bar within its parent window.

When you work with multiple windows, sometimes you may like to use the entire screen for a particular window. For example, while working on a document file in the Word window, you may like to use the entire screen for the Word window. Later, if you want to work on a spreadsheet but do not want to close the Word document, you may minimize the Word window. After you have minimized or maximized a window, you may want to restore the window to its normal size.



Maximize, Minimize and Restore a Window Look at Fig. 2.4. On the right side of the title bar of the window, there are three buttons. The first button that looks like  is called the *Minimize* button. You can click this button to minimize the corresponding window. The button on the right side of Minimize button, which looks like  is called the *Maximize* button. Clicking this button maximizes the corresponding window. Let us use these buttons on the Recycle Bin window.

- Double click the Recycle Bin icon to open the Recycle Bin window. Your screen should look similar to the Recycle Bin window displayed on the desktop shown in Fig. 2.3. (If the Recycle Bin window covers the entire desktop, it is already maximized. In that case, skip the next step.)
- Click , the Maximize button of the Recycle Bin window.
Windows expands the Recycle Bin window. Now it occupies the entire desktop (except the taskbar).

When Windows maximizes a window, it replaces the Maximize button with the *Restore* button. This button looks like . You may click the Restore button to restore the window to its original size (prior to maximizing the window). Remember that the Restore button is displayed only when a window is in the maximized state. Let us restore the Recycle Bin window to its previous size.

- Click , the Restore button on the Recycle Bin window's title bar, and Windows restores the Recycle Bin window to its previous state.

Another way to maximize a window or restore it to its previous size is by double-clicking its title bar. You can also minimize, maximize and restore an open window by clicking the corresponding command in the Control menu. Besides clicking the Control Menu button, you can also display the Control menu by *right clicking* the mouse (i.e., clicking the right mouse button) anywhere on the title bar of the window.

- Click  on the title bar of the Recycle Bin window and watch the taskbar. Windows minimizes the Recycle Bin window. In fact, the window is no more visible on the desktop. However, the 'Recycle Bin' window is available as a button on the Windows Explorer button on the taskbar, which looks like .


Next, let us try to restore the Recycle Bin window.

- Move the mouse on the Windows Explorer button and it displays a tiny Recycle Bin window above the button. Click the tiny 'Recycle Bin' window and Windows restores the Recycle Bin window.

When a program (e.g., Recycle Bin or Microsoft Word) is running, Windows displays its icon as a button on the taskbar. The taskbar may also have icons for other *pinned* programs. (You will learn about pinning programs to the taskbar in Section 2.5.4.) To differentiate icons of pinned programs from the running (opened) programs, Windows highlights the icons of running programs by showing a border around these, as illustrated in Fig. 2.5. Notice that icons for Microsoft Word and Paint, which are running are enclosed in a border. On the other hand, other icons are displayed without the border as the corresponding programs are not running or open at the moment.



Fig. 2.5 Taskbar displaying icons for running and not running programs

Closing a Window The easiest way to close a window with the mouse is by clicking its Close button. The Close button that is located at the extreme right of the title bar looks like . You may also use the shortcut keys (Alt + F4) to close the current window. Moreover, if you prefer, you may use the Close command from the Control menu to close a window. The Control menu can be displayed by clicking the Control menu button on the title bar or right clicking the mouse anywhere on the title bar.

2.4.2 Moving and Resizing a Window

As we know, in Windows, you can open more than one windows at a time. You may need to open multiple windows when you want to run more than one application simultaneously. For instance, you can run Word in one window and Excel in another. When you have multiple windows open on your desktop, you may need to move or resize windows. Windows allows you to resize almost any open window or move it anywhere on the desktop or within its *parent* window.

Moving a Window


- If the Recycle Bin window is not open, double click its icon to open it. If the window is maximized, click the **Restore** button on its title bar to restore it to normal state.


You can move a window by dragging its title bar with the mouse. Let us move the Recycle Bin Window.

- Position the mouse pointer on any empty area on the title bar of the Recycle Bin window.
- Press and hold the left mouse button. Without releasing the mouse button, move (drag) the mouse to move the window. When the window appears where you want to position the Recycle Bin window, release the mouse button.

In the same way, you can move any open window on the desktop or within its parent window.

Resizing a Window You can change the size of most windows with ease. You may need to change the size of a window when you want to display more or less information in a window, or when it obstructs some other window and you want to show both windows simultaneously. Let us change the size of the Recycle Bin window. First, we will change the height of this window.

- Move the mouse pointer on the top or the bottom border of the window until the shape of the mouse pointer changes to a double-headed arrow similar to . While the mouse pointer is in the double-headed arrow shape, drag the mouse up or down. (Remember to keep the mouse button pressed while dragging.) As you drag the mouse, Windows resizes the window.




If you want to change the width of a window, move the mouse pointer to its right or left-side border. The shape of the cursor changes to a double-headed arrow similar to . Then drag the border left or right to change the width of the window.

Note If you want to change the height and width of the window simultaneously, drag the corner of the window. You may find it easier to drag the bottom-right corner. (See Fig. 2.4.)

2.5 USING THE START MENU



To start a program whose icon is available on the Desktop, you may double click it. For instance, double clicking the Trend Micro icon starts the Trend Micro program. (See Fig. 2.1.) In this way, you can start any program whose icon is available on the desktop. To start other programs whose icons are not available on the desktop, you can take the help of the Start menu. Clicking the Start button on the taskbar opens this menu. The Start button is located on the extreme left on the taskbar.

- Click , the **Start** button located on the left of the taskbar. (See Fig. 2.1.). If your PC has a Windows keyboard, you can also open the Start menu by pressing the Windows key, which looks like , , or something similar.

Your PC displays a Start menu similar to the one shown in Fig. 2.6, though the menu you see on your monitor may be slightly different depending on the configuration of this menu and the programs you have run recently. The Start menu is divided into two vertical sections: the white section in the left and the dark section in the right. As illustrated in Fig. 2.6, the left side Start menu displays *pinned* programs at the top and frequently run programs below that. A pinned program always appears at the top of the Start menu for quick starting of the favorite programs. Notice that Windows displays a small

triangle against some of the programs (e.g., WordPad and Getting Started in Fig. 2.6) in the menu. This indicates that Windows displays more options (submenu) on selecting these menu items. To select a program from the Start menu, click the mouse on the desired program or use arrow keys to highlight it and then press the **Enter** key. If you do not want run any program from the Start menu, click any empty area on the desktop or press **Esc**.

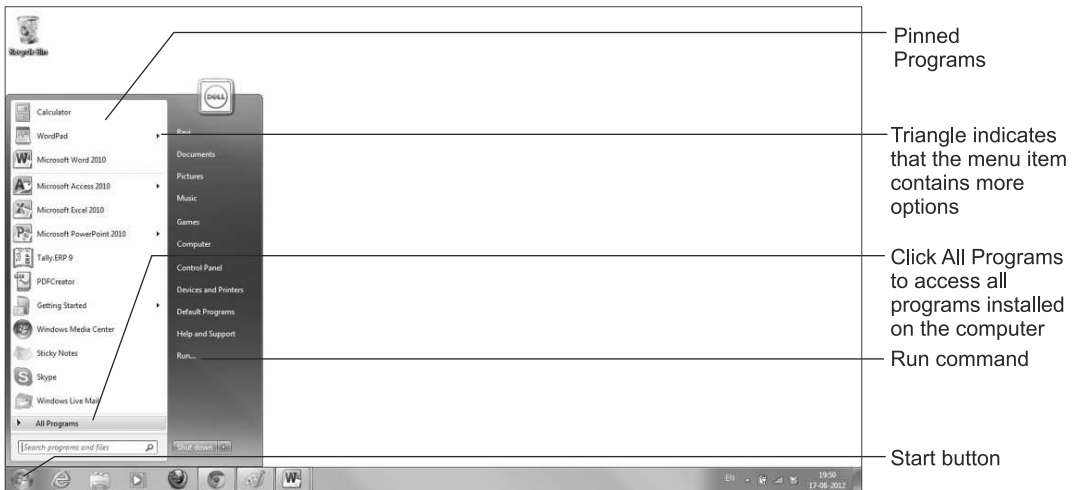
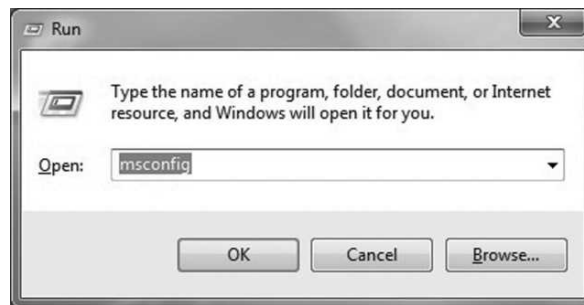


Fig. 2.6 Start menu

Tip To remove an item from the Start menu, e.g., Calculator or PDF Creator in Fig. 2.6, right click the corresponding item to display a shortcut menu and click **Remove from this list**.

The right side of the Start menu contains links to important folders, such as Documents, Pictures, Music, Games, etc., on the computer. It also contains links to special Windows folders, such as Control Panel, Devices and Printers, Help and Support, etc. In this menu, you may also see “Run”, which is used to run a command in the old DOS style. Notice that an ellipsis (...) follows the Run command. When you choose a menu item that has an ellipsis (...) following its name, Windows opens a *dialog box*. For example, on choosing **Run**, you see the Run dialog box similar to what is shown below.



This dialog box contains a message, a *combo box* to enter or choose a command, and three *command buttons*—OK, Cancel and Browse. The highlighted box in the center of the dialog box is called the

combo box. If you do not want to execute any command, click the Cancel button to close the dialog box.

At the bottom of the right side of the Start menu is the Shut Down button, which is used to shut down the computer. On clicking the arrow on the right of this button, Windows displays a few options, such as Restart, Hibernate, Sleep, Log Off, Lock, etc. These operations will be discussed later.

2.5.1 Using All Programs to Access Programs

The Start menu can display only a few items, whereas your computer typically contains dozens of programs. To access other programs installed in your computer, you can take the help of All Programs.

- Open the Start menu and click **All Programs** in the Start menu.

Windows displays all programs installed on the computer in the menu as shown in Fig. 2.7. Notice that Windows replaces *All Programs* with *Back* in the menu; therefore, you may use *Back* (or the Esc key) to return back to the previous Start menu. Use the scroll bar in the menu to scroll the menu.

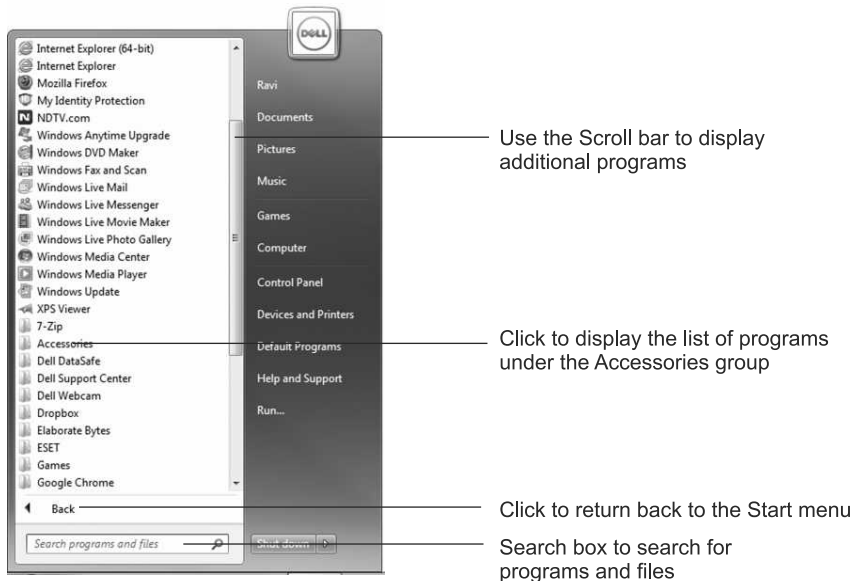


Fig. 2.7 The Start menu displaying all programs installed on the computer

Notice that some programs, such as 7-Zip, Accessories, Dell DataSafe display a folder like icon to their left. On clicking these, Windows opens a submenu containing one or more options. Programs use this technique groups similar program under one menu item for quick access. For instance, you may find Word 2010, Excel 2010, Access 2010, PowerPoint 2010 under Microsoft Office in the menu.

2.5.2 Searching for Programs and Files in Start Menu

The Search box at the bottom of the Start menu (see Fig. 2.7) is amazing as it can locate any program installed in the computer almost instantaneously. Besides finding programs, it can also find files with ease. When the Start menu opens, the insertion point (cursor) is positioned in the search box. As you

start typing in the search box, Windows initiates a very fast search operation and starts displaying programs and files matching the entered text. Let us use the Search box to find the Word program on the computer.

- Open the Start menu and type **Word** in the Search box.

Notice that as you type text in the search box, Windows updates the menu with matching programs, documents, files, etc., as shown in Fig. 2.8. To run a program or open a file, you just need to click it in the menu.

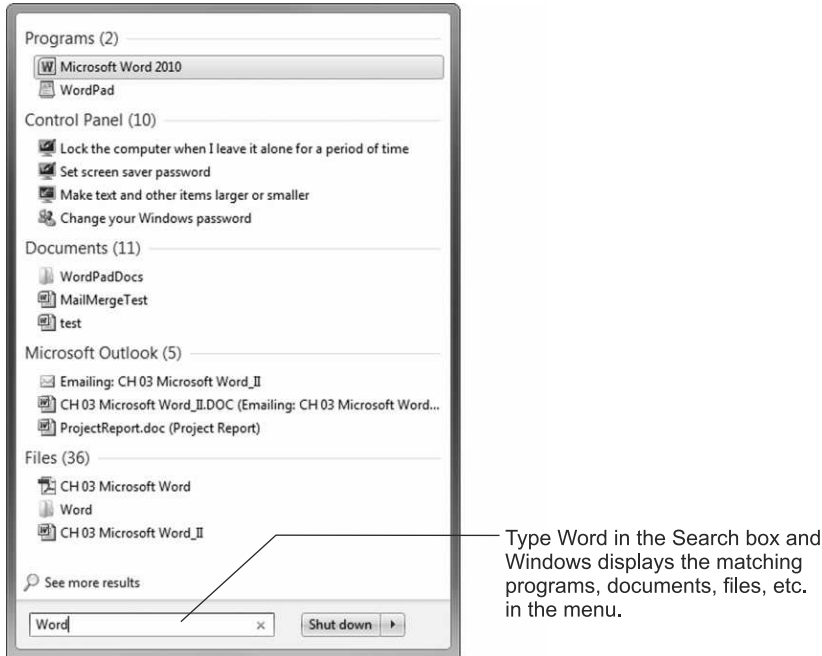


Fig. 2.8 Windows displaying programs and files matching the entered text “Word”

2.5.3 Pinning a Program to the Start Menu

Windows automatically updates and rearranges commands it displays in the Start menu depending on the programs you use and how frequently you use these. However, Windows can help you to place shortcuts for the programs you frequently use at the top of the menu so that you may find these quickly. The process is called *pinning a program to the Start menu*. To pin a program to the Start menu:

- Click the **Start** button to open the Start menu and then click **All Programs**. If required, open a submenu to locate the program, e.g., Microsoft Word 2010 may be located under Microsoft Office.
- Right click the program that you want to Pin to display a context (shortcut) menu. Click **Pin to Start Menu** in the context menu.

The pinned program appears in the top section of the Start menu. Later, if you decide to unpin a program from the Start menu, right click the pinned program and click “Unpin from Start Menu” in the context menu.

2.5.4 Pinning a Program to the Taskbar

Besides pinning a program to the Start menu, you can also pin a program to the taskbar, which makes sense as taskbar is normally always visible at the bottom of the desktop. After a program has been pinned to the taskbar, you just need a single click to start it. The procedure to pin a program to the taskbar is similar to pinning it the Start menu, except that you choose “Pin to Taskbar” instead of “Pin to Start Menu”. Similarly, to unpin a pinned program from the taskbar, right-click the program icon and click “Unpin this program from taskbar” in the context menu displayed by Windows.

2.5.5 Copying Icons from Start Menu to the Desktop

If you use a program frequently, and if its icon is available on the desktop, it may help you to quickly start the program. You can copy an icon from the Start menu to your desktop with ease:

- Open the Start menu and locate the program whose icon you want to place on your desktop.
- Drag the icon to your desktop. (See Fig. 2.9.) You may drag the icon on the desktop to reposition it, if required.

Once the icon for a program is available on your desktop, you may be able start the corresponding program by double clicking the mouse on that icon.

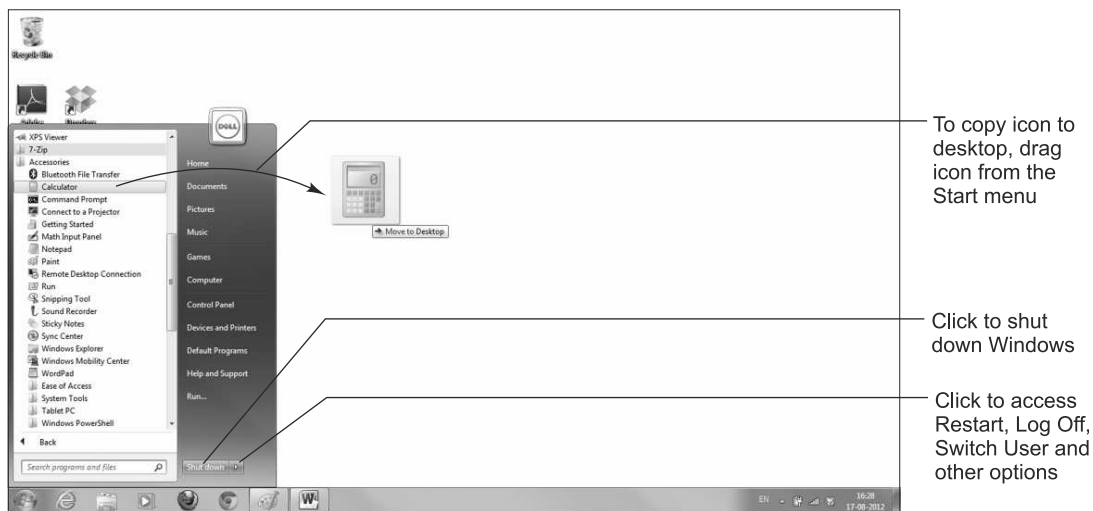


Fig. 2.9 Copying icon from Start menu to desktop

2.6 SHUTTING DOWN, RESTARTING AND LOGGING OFF WINDOWS



If you do not want to work on your PC anymore, i.e., want to switch off the PC, you should first *shut down* Windows and let Windows switch off the computer.

Caution Never switch off your PC without shutting down Windows, otherwise Windows may not start properly next time. Moreover, you may also lose your unsaved work.

- To shut down Windows, open the Start menu and click the **Shut Down** button, as illustrated in Fig. 2.9.

The Shut Down button tries to close all open programs, shuts down Windows and then switches off the computer. If Windows is unable to close any program, it displays a suitable message.

Sometimes, after installing an important update to Windows or installing or updating some other program, it may be required to *restart* Windows. The restart process shuts down Windows and restarts it again without switching off the computer. To restart Windows:

- Open the Start menu and click the arrow to the right of the Shut Down button, as illustrated in Fig. 2.9.
- Windows displays a submenu with these options: Switch User, Log Off, Lock, Restart, Sleep and Hibernate. Click **Restart** to restart Windows. After the Windows restarts, you will need to logon before you can use the computer.

Normally, computers contain sensitive or confidential information, and you would not like unauthorized users to access it. Therefore, If you need to leave the computer unattended, to prevent unauthorized access to the computer, you may *lock* it or *log off*. When you lock the computer, Windows hides all program windows while they continue to run in the background. To unlock the computer, you need to enter the password. On the other hand, if you choose Log Off, Windows closes all open programs and you would need to Logon to work again on the computer. Use the Log Off option, if you need to leave the computer unattended for extended period.

- To *Lock* or *Log Off*, open the Start menu, click the arrow to the right of the Shut Down button and click the corresponding option on the submenu.

Windows supports multiple users and these users can even be logged on simultaneously. All logged on users can run programs independently. They can even run the same program, e.g., two users may run Microsoft Word 2010 program and work on their documents simultaneously. To switch users:

- Open the Start menu, click the arrow to the right of the Shut Down button and click the **Switch User** option from the submenu.
- Windows displays a screen with icons for all users. Click the icon for the desired user you want to switch to. You may be required to enter password before Windows allows you to access the user account.

2.6.1 Sleep and Hibernate

Windows can put the computer in *sleep* and *hibernate* modes to conserve electricity. These modes are particularly important for laptop PCs as these can extend the battery power. When you put the computer in these modes, Windows saves a copy of whatever applications were running on the hard disk. In the sleep mode, it also maintains a copy of the applications data in the memory for sometime, which can help the PC to wake up quickly during that time. If the computer has been in the sleep mode for extended time or is in hibernate mode, it reads the data from the saved file in the hard drive, so it may take few seconds to load all applications.

- To bring the computer out of the sleep/hibernate mode, press a key on the keyboard or click mouse. If that does not work, press the Power button of your PC.



2.7 CUSTOMIZING THE DESKTOP

Windows desktop is highly customizable. For example, you can add, delete or rearrange icons on the desktop or change their size. You can also change the visual appeal of the desktop and other Windows components by changing the theme. You can also add *gadgets* to the desktop, which display useful information.

2.7.1 Rename and Delete Icons

Usually some text is displayed below the icon, which is helpful in identifying it. If you prefer, you can change this text. In order to do so

- Right click the icon on the desktop to display a context menu. Click **Rename**, type the new name and click any empty area on the desktop.

If you do not need a desktop icon, you may delete it, though Windows 7 may not allow you to delete the Recycle Bin icon.

- To delete a desktop icon, right click the icon and choose **Delete** from context menu.

2.7.2 Resize and Arrange Icons

Depending on your screen size, resolution and your preference, you can display icons as large, medium or small.

- Right click an empty area on the desktop and click **View** on context menu, and Windows displays the View options, as shown in Fig. 2.10.

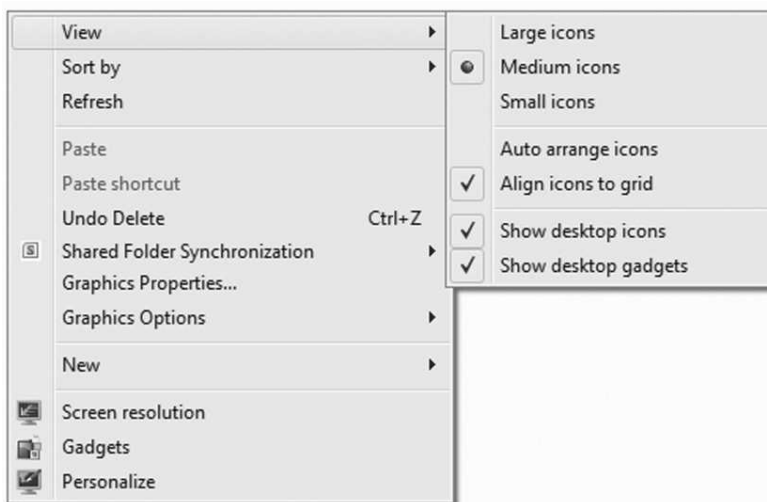


Fig. 2.10 Desktop icons View options

Now you may choose Large, Medium or Small icons options as per your preference. Notice that the “Align icons to grid” option is checked, which keeps the icons horizontally and vertically aligned to an invisible grid. The “Auto arrange icons” option, which is off by default and most users normally keep

it off is useful if you want Windows to automatically arrange icons when you move, rename, add or delete icons.

- When the “Auto arrange icons” option is off, to reposition the icon on the desktop, just drag and drop it with mouse to the desired location. When you drag the icon with mouse, Windows attaches a copy of the icon to the mouse pointer. You can drag the mouse anywhere and the copy of the icon follows the mouse. When you release the mouse, Windows deletes the icon from the original position and places it at the new position.

Another way to rearrange icons on the desktop is by asking Windows to sort icons:

- Right click an empty area on the desktop and click **Sort by** on context menu, and Windows displays a submenu containing these options: Name, Size, Item Type and Date Modified. Now click the desired option to ask Windows to sort icons on the desktop. If you do not want to sort icons, click any empty area on the desktop to close the menu.

Notice that View submenu in Fig. 2.10 contains two options, *Show desktop icons* and *Show desktop gadgets* checked. If you uncheck any of these options, Windows removes the corresponding item(s) from the desktop.


2.7.3 Displaying Gadgets on the Desktop

A gadget is a special program that displays some useful information on the screen. Usually, the information displayed by the gadget updates on regular interval. Windows 7 contains a few gadgets, such as Clock, Calendar, CPU Meter, Currency Converted, Weather, Slide Show, Windows Media Center, etc. Most gadgets require an Internet connection to provide current information. You may find the CPU Meter interesting as it displays the CPU and Random Access Memory usage in real time. Similarly, you may use the Windows Media Center gadget to launch Windows Media Center to play music or display pictures.



Fig. 2.11 Desktop Gadgets

- Right click an empty area on the desktop and click **Gadgets** on context menu, and the Window Gadgets Galley containing available gadgets appears, as shown in Fig. 2.11. Figure 2.11 also displays the Clock and Currency gadgets running on a desktop.

- Double click the gadget icon to add it to your desktop. You can drag the gadget to reposition it anywhere on the desktop. When you hover the mouse on the gadget, it displays controls to customise the gadget. For instance, you may click  (Options) to display the weather details for a selected city with the Weather gadget or change the clock face for the Clock gadget.

2.7.4 Changing the Desktop Background

While working on your PC, you are looking at the display on the monitor almost all the time. What would happen if your monitor displays a background color that you do not like? Well, there is no need to worry as Windows provides full control over the desktop background, also known as *wallpaper*. Let us learn to change the desktop background.

- Right click the mouse on any empty area on the desktop; choose **Personalize** from the menu and Windows displays the Personalization window as shown in Fig. 2.12. You can also get this window by choosing Control Panel, Appearance and Personalization, Personalization from the Start menu.

There are two ways to change the desktop background; one by changing the *theme* and the other by directly changing background image. We will talk about themes in a moment. Notice that Fig. 2.12 displays the current desktop background and the Desktop Background link below it.

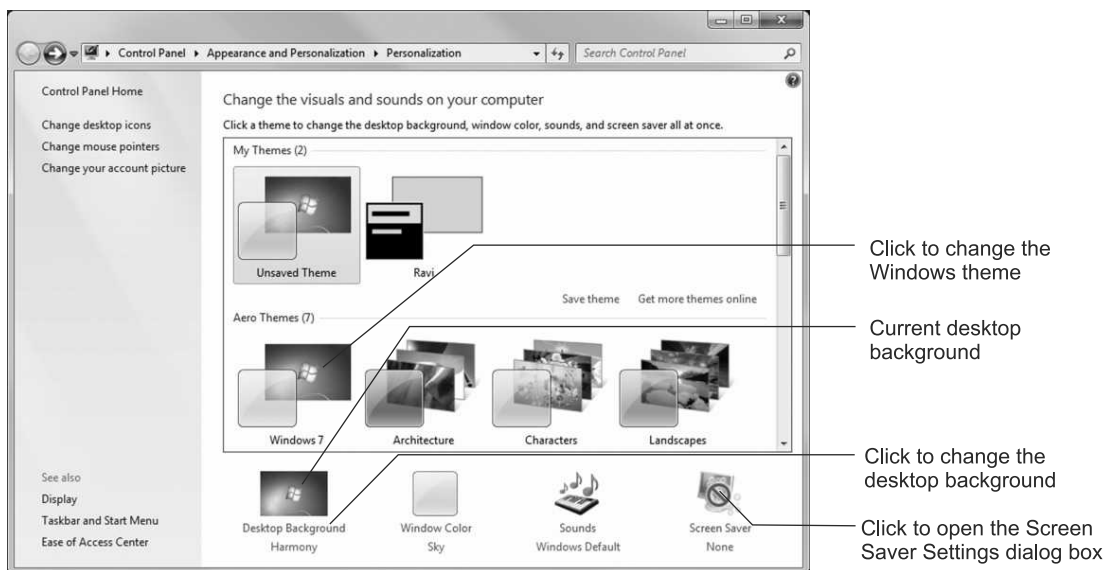


Fig. 2.12 Personalizing the Desktop

- Click **Desktop Background** and Windows displays a window to choose the desktop background as shown in Fig. 2.13.
- Windows displays available pictures for the desktop background and you can click one or more pictures for your background. You can use the **Select All** button to select all pictures or **Clear All** to clear all pictures. If you select multiple pictures for the desktop background, you can choose the time to change the picture.

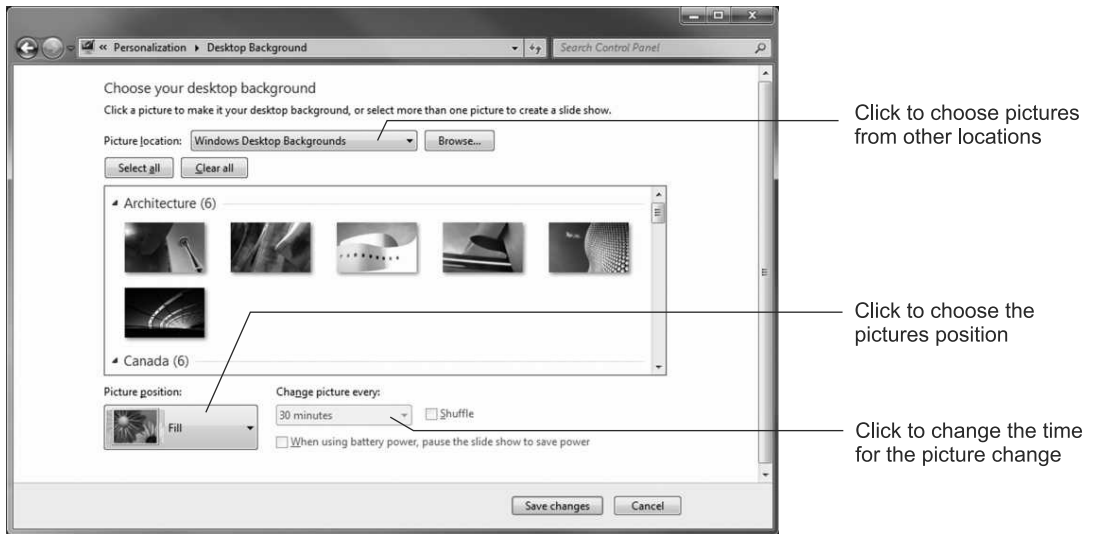


Fig. 2.13 *Changing the Desktop Background*

- If you prefer to use your own picture(s), e.g., digital camera pictures saved on the computer, click the button to the right of “Picture location:” or click the **Browse** button and select the folder/location containing the pictures. Then choose the desired picture(s) in the usual way.

The Picture Position controls determines how the selected picture(s) would appear on the desktop. This controls has five options to choose from: Fill, Fit, Stretch, Tile and Center.

- As you make a selection, Windows updates your desktop. If you do not like the effect, choose some other option. Finally, click **Save Changes** to apply the changes or **Cancel** to cancel the changes.

While choosing the desktop background, you should be careful that it does not make the icons merge in the background, making it difficult to see the icons. Windows also provides an option to choose solid colours as the desktop background.

2.7.5 Using Themes to Change the Desktop

A *theme* is a combination of various computer properties, such as pictures, colors, sounds, desktop background, screen saver, window border, desktop icons, etc. In other words, a theme gives a distinctive look to computer. Windows comes with several aero, basic and high contrast themes, and depending on your preference and computer performance, you can choose a theme. Aero themes include translucent glass windows and special animations. You can even modify an existing theme to create a custom theme. Figure 2.12 displays two custom themes and few aero themes; use the scrollbar to view other available themes. Applying a theme is as simple as clicking the theme icon. And, after applying a theme, if you do not like it, choose a different theme.

After applying a theme, if you prefer, you can customize it. For instance, you can change the default desktop background or screen saver. The changed theme appears as **Unsaved Theme**, which you can save by clicking **Save theme**. The Aero themes, though look interesting need more computer resources. If your computer is not very powerful, consider using basic or high contrast themes, however, if you

are not using an aero theme, you will miss out several aero features, such as aero peek, aero shake, aero snap, etc. We would discuss these features later.

2.7.6 The Screen Saver

The Screen Saver automatically displays a predefined changing screen when there is no activity on the computer for a specified time, e.g., when you leave the computer for tea/coffee break. While you are away from your computer, the screen would continue to display the same image. In the past, the technology of the phosphor coating in the monitor was not so good and it could get burnt if the same text/image was displayed on the monitor for a long time. Therefore, *screen savers* were introduced that would automatically change the static information on the screen when there is no keyboard or mouse activity for a specified time. Once the Screen Saver takes over the control of display, it automatically keeps changing the image on the screen. When you move the mouse or press any key, Windows redisplay the original screen. Though today's monitors do not really need the screen savers, these will stay forever, at least for fun. Windows includes a few predefined screen savers. Besides, you can choose pictures from a folder on your computer as screen saver.

- To define or change the screen saver, click the **Screen Saver** icon in the Personalization window, as illustrated in Fig. 2.12. Windows displays the Screen Saver Settings dialog box as shown in Fig. 2.14.

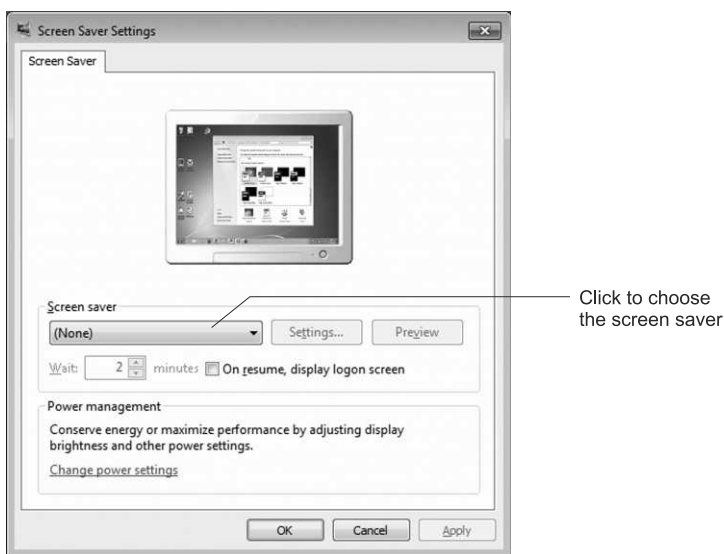


Fig. 2.14 Screen Saver Settings dialog box

- Click the button located in the Screen Saver box in the middle to choose the screen saver. If you want to display pictures (photos) as screen saver, choose **Photos** as screen saver, and then click **Settings** to choose the folder contains photos.
- While defining screen saver, click **Preview** to preview the effect of your selection. Notice the Wait spinner box in the Screen Saver Settings dialog box. This is used to specify an *elapsed time* (in minutes) before the screen saver kicks in. Finally, click **Apply** to apply your selection.

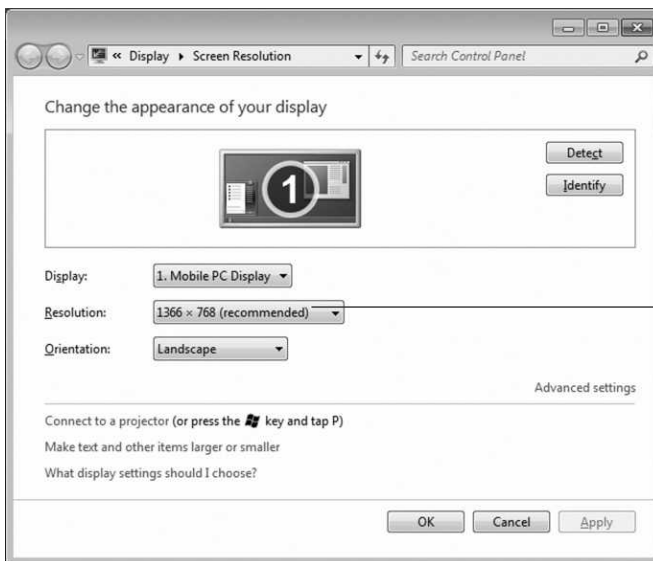
It is also possible to display the logon screen to exit from the screen saver and return back to the active window through the “On resume, display logon screen” check box .

2.8 CHANGING SCREEN RESOLUTION



You can make text and pictures larger or smaller by changing the screen resolution. The higher screen resolution enables Windows to display more information on the screen, however, the character size you see on the screen becomes small making it a little difficult to read, if your eyesight is not perfect. The maximum screen resolution you can use depends on the video adapter card and the type of monitor installed in your PC.

- To view or change the screen resolution, right-click mouse on an empty location on the desktop, click **Screen Resolution** on the context menu and a windows appears that displays the current screen resolution, as shown in Fig. 2.15.



Click and use the slider to change the screen resolution

Fig. 2.15 Changing Screen Resolution

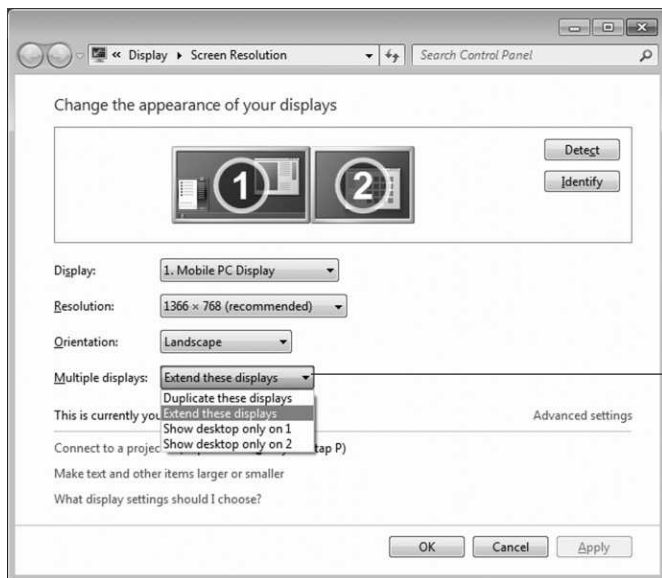
- To change the screen resolution, click the **Resolution** button and use the slider control displayed by Windows, as illustrated in Fig. 2.15. The click the **Apply** button.

When you choose a setting which is not optimal, Windows displays a message box and gives you an option to revert back to the previous setting. Also remember that on flat panel (LCD) displays, the kind of displays which are normally used with PCs these days, if you choose a resolution other than the maximum, the display does not look good.

2.8.1 Using Multiple Monitors

Some computers, particularly laptops have an extra video output connector (jack). If your computer has an extra video connector, you can connect a second monitor or video projector on this connector.

Windows 7 Home Premium and higher have built-in support for multiple monitors and it should automatically detect the additional monitor when you open the Screen Resolution window. Figure 2.16 displays two displays connected to a PC. Notice that the window contains an extra control: *Multiple displays*. This control is used to control how Windows handles multiple displays. As illustrated in Fig. 2.16, you can choose to duplicate displays, show desktop only on display 1 or 2, or extend these displays. Extending the displays is useful when you work on multiple programs simultaneously, as you can keep one program on display 1 and the second on display 2. In this case, the mouse pointer seamlessly moves from one display to the other and you can drag program windows from one display to the other.



Click and choose how you want to use multiple displays

Fig. 2.16 The Screen Resolution window displaying two monitors connected to the computer

2.9 CONTROL PANEL



The Control Panel is central place to change almost every Windows settings for the computer system. For example, you can use it to change the behavior of your mouse, keyboard, display, modem, printers, etc. You also use the Control Panel to remove (uninstall) a program, add or remove user accounts, change Windows appearance, etc. Let us have a look at the Control Panel.

- Open the Start menu by clicking the **Start** button on the taskbar and click **Control Panel**.

The Control Panel window appears that displays various Windows settings grouped into a few categories, such as System and Security, Network and Internet, Hardware and Sound, etc. Another view of the Control Panel can display these settings as icons. Figure 2.17 displays both versions of the Control Panel. Use the control displayed to the right of **View by** in the top-right area of the Control Panel to change the Control Panel view.

2.9.1 Searching Control Panel

If you are new to the Control Panel, you may find it a little confusing, as it contains so many settings or icons. There are so many controls in this windows as it is central place to change all Windows settings. If you hover mouse over a link/icon, Windows displays a brief description about the setting. However, to help you accomplish your needs, the Control Panel contains a search box at the top—just type what you want to do (e.g., type *Mouse* if you want to change the mouse settings) and the Control Panel displays the matching settings you can change. Figure 2.18 displays a Control Panel window with tasks matching the entered text *Mouse*. Now you can click a link to change the corresponding settings.

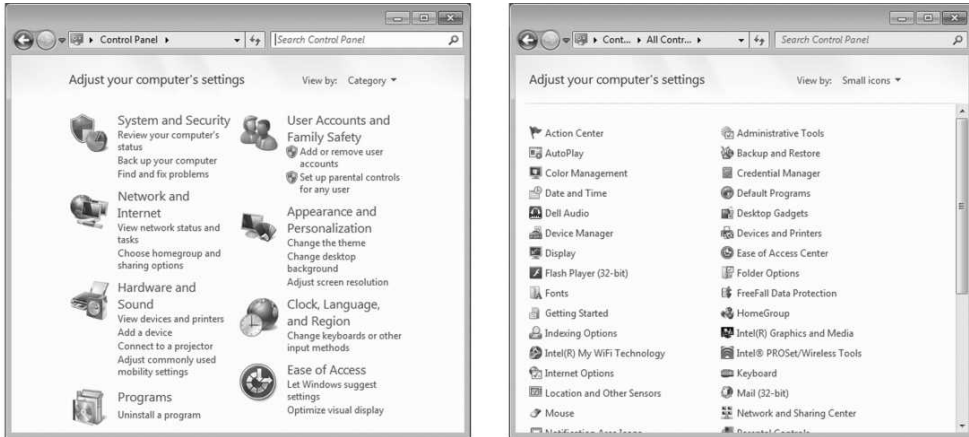


Fig. 2.17 Control Panel

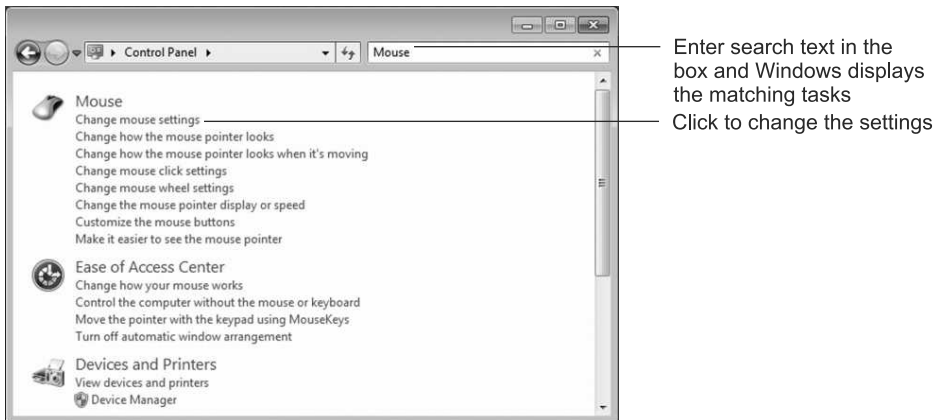


Fig. 2.18 Searching Control Panel

2.9.2 Controlling Mouse Properties

Mouse is one of the most extensively used devices for communicating with Windows. Different users may like to adjust the mouse properties, such as the double clicking speed, mouse buttons, mouse pointer shapes, etc., to their liking. If you are a left-handed person, you may like to swap the mouse buttons. Let us have a look at the Mouse Properties window.

- If the Control Panel window is not open, open the Start menu and click **Control Panel**.
- Type **Mouse** in the search box (see Fig. 2.18). Now click **Change mouse settings**, the first item in Fig. 2.18, and Windows displays the Mouse Properties window shown in Fig. 2.19.

The Mouse Properties window initially selects the Buttons page. It displays the current configuration of mouse buttons. In Fig. 2.19, the buttons are suitable for right-handed persons.

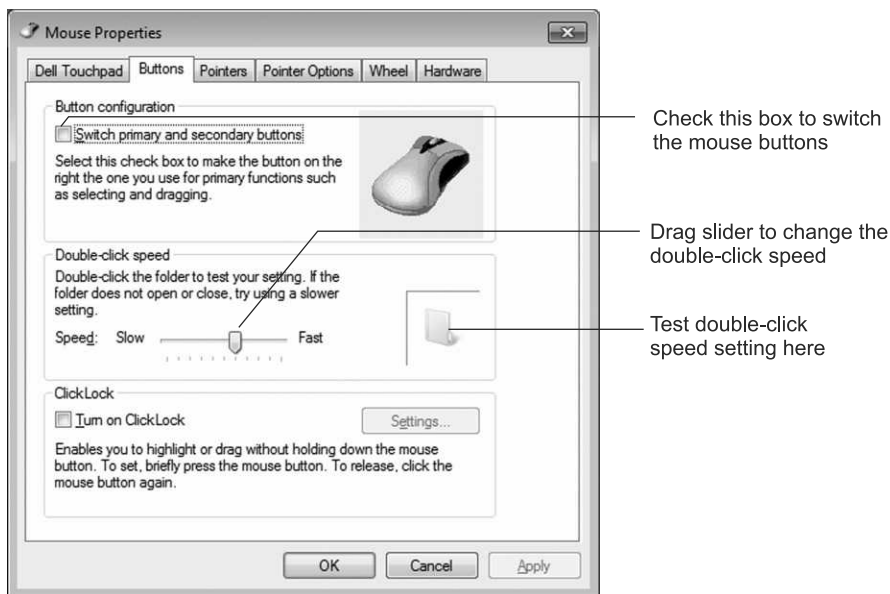


Fig. 2.19 Mouse Properties window

- For a left-handed person, swap the mouse buttons by clicking the **Switch Primary and Secondary buttons** check box.
- If you have problem with the double click speed of the mouse, you can adjust it by dragging the slider towards Slow in the Double click speed box. The Mouse Properties window also provides space for testing the double click speed. If the graphics in the test area changes on double clicking the mouse, your double-click speed is okay.

Other tabs (pages) on the Mouse Properties window are used to change other mouse properties, such as mouse pointer shapes and scroll wheel speed. As usual, after making changes, click the **OK** button to save changes or **Cancel** to abandon changes.

2.9.3 Changing Region and Language

Different regions in the world follow different formats for writing dates, times and numbers. For instance, in India, Dec 25, 2013 is normally written as 25-12-2013, whereas in USA, it is usually written as 12/25/2013. Similarly, there are differences in the way digits are grouped in numbers, currency symbol, currency formats, etc., in different regions. To ensure that programs display dates, times, currency, numbers, etc., in the acceptable formats, Windows has built-in support for almost all regions. For Indian subcontinent, Windows 7 supports English (India), Hindi (India), Assamese (India),

Bengali (India), Bengali (Bangladesh), Gujarati (India), Kannada (India), Konkani (India), Marathi (India), Oriya (India), Malayalam (India), Tamil (India), Telugu (India), Sanskrit (India) and Sinhala (Sri Lanka) formats. You may choose the suitable format from the Region and Language dialog box.

- To open the Region and Language dialog box, search for “Region” in the Control Panel and click **Region and Language**.

Figure 2.20 displays a Region and Language format with the English (India) format selected. To change the format, click the button and choose the desired format. On choosing a new format, Windows updates the default date and time formats and their examples in the Region and Language dialog box. If required, you may change any of these by clicking the corresponding button. For additional customization of number, currency, time and date formats, click the **Additional Settings** button.

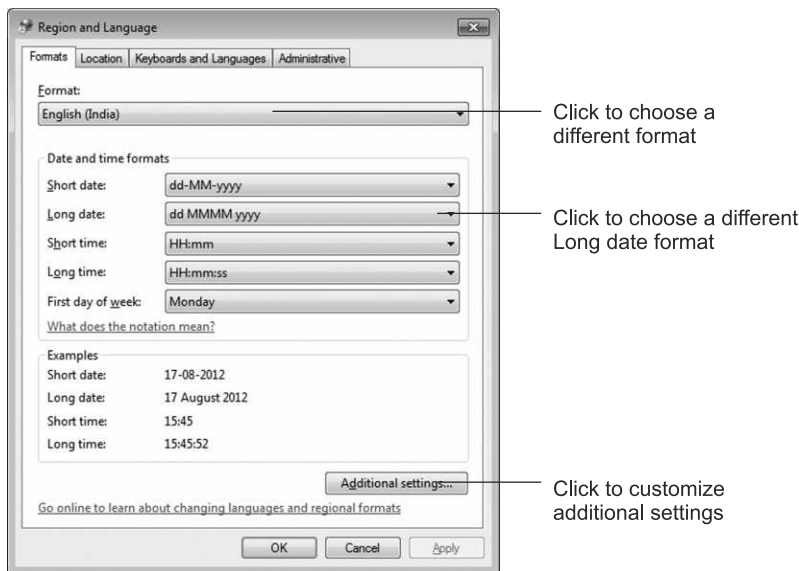


Fig. 2.20 Region and Language window

2.9.4 Action Center

Action Center is the central place in Windows 7 to provide all kinds of alerts for smooth and efficient running Windows 7, as well as to take actions to fix those alerts. To open the Action Center:

- Open Control Panel and click **Action Center**. (If you cannot find Action Center in Control panel, type **Action Center** in the Search box.) Figure 2.21 displays an Action Center window.

Any item that requires immediate action is marked in red color while the recommended items are marked in yellow color. Examples of red color items are important Windows updates and an outdated antivirus program. In Fig. 2.21, the *Check Backup Settings* item is shown in yellow color as Windows cannot find a backup location. Normally, you do not need to open Action Center, as Windows displays the action center messages through the Action Center icon in the Notification area of taskbar as discussed in the next section.



Fig. 2.21 Action Center

2.10 MAKING MORE USE OF THE TASKBAR



We have already discussed a few applications of the taskbar, e.g., Windows displays icons of the programs that are open on the taskbar. Besides, you can *pin* programs on the taskbar and then you just need to click the corresponding icon to start the program.

Note If you are migrating from Windows XP or Vista, the Quick Launch toolbar is not available in Windows 7.

2.10.1 Notification Area

The Notification area, also known as the *System tray*, located in the extreme right of the taskbar typically displays the System Clock and icons for some common processes (tasks) that may require some user attention or adjustment. A taskbar with the Notification Area displaying three icons is shown here.



To keep the notification area neat and tidy, by default, Windows 7 displays only a few icons and hides the rest. To reveal the hidden icons, click the arrow located to the left of the notification and Windows displays a popup window containing the hidden icons, as shown in Fig. 2.22. To include any icon in the notification area, drag the corresponding icon from the pop up to the notification area. Similarly, you can drag an icon from the notification area to the hidden icons popup window to hide the icon. And, you can drag icons in the notification area to reposition them.

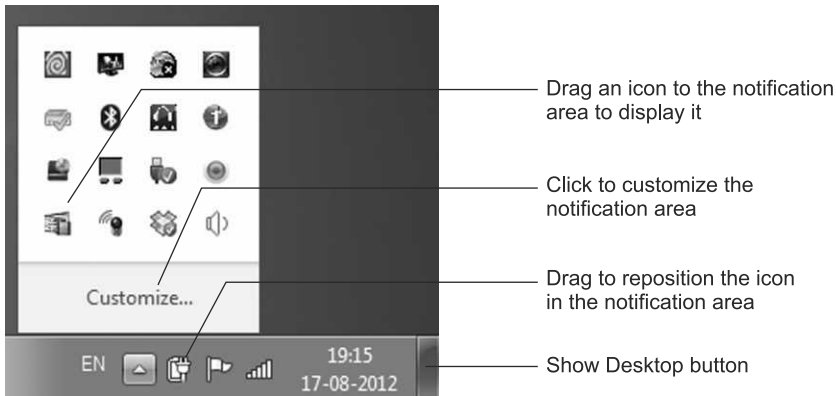


Fig. 2.22 *Taskbar displaying hidden icons*

Windows uses the icons in the notification area to provide useful information for any situation that may require immediate attention. For instance, on laptop PCs, the Power icon displays the battery charge status and the Action Center icon may display a message if there are important Windows updates pending or no antivirus program is use. Similarly, the Speaker icon is used to display the speaker volume as well to change it. Therefore, depending on your requirement, you may put the required icons on the notification area. Remember that if an icon is hidden, Windows will not be able to provide the notification. To further customize the notification area or to turn off/on the system icons (e.g., clock, volume, Action Center, etc.), click **Customize** (see Fig. 2.22) to open the Notification Area Icons window shown in Fig. 2.23. To change the behavior of an icon, click the button displayed against the icon and choose the desired option. If you want to turn off/on system icons, click **Turn system icons on or off**, as illustrated in Fig. 2.23.

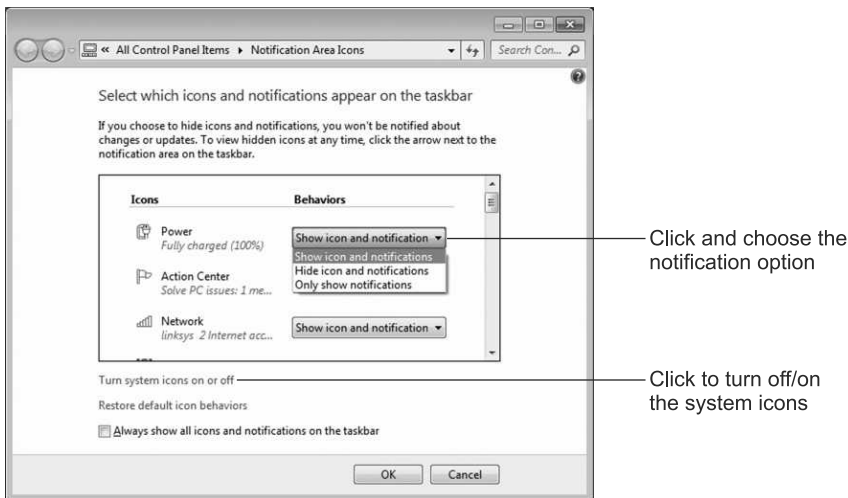


Fig. 2.23 *Customizing the notifications area*

2.10.2 Show Desktop

While working on Windows programs, if you want to quickly view your desktop, Windows provides the Show Desktop button, conveniently located at the extreme right of your taskbar (See Fig. 2.22.) On clicking this button, Windows minimizes all open windows and you get a clear view of your desktop icons.

Note If you are using Aero themes and the Peak at desktop option for the Show Desktop button is on, you can hover mouse on the Show Desktop button and then Windows makes all open windows transparent while displaying only their outlines, thus revealing all desktop icons.

Besides using the Show Desktop button, you may also show the desktop by clicking the **Show the desktop** command on the context menu that opens when you right click an empty area on the taskbar.

2.10.3 Customizing Taskbar

For additional customization of the taskbar, use the Taskbar and Start Menu Properties dialog box that you can open by right clicking any empty area on the taskbar and choosing the Properties command. Figure 2.24 displays the Taskbar and Start Menu Properties dialog box. This dialog box may be used to lock the taskbar and its toolbars on the desktop. In the unlocked condition, you can resize or reposition the taskbar anywhere on the Desktop. The *Auto-hide* option, which is not commonly used keeps the taskbar hidden, however, as soon as you move the mouse pointer on the area where the taskbar is supposed to be located, Windows brings it back. The *Toolbars* tab of the Taskbar and Start Menu Properties dialog box lists a few toolbars, such as Address, Links, Tablet PC Input Panel, Desktop, etc. You may click the corresponding check box to include these on the Taskbar. The *Desktop toolbar*, when placed on the Taskbar gives you a convenient way to access all icons on your desktop as well as few frequently used places such as libraries, Network, Control Panel, Personal folders, etc. The *Links toolbar*, as the name indicates, provides a convenient way to access your favorite websites as well as folders, files, programs, etc. Besides using the Taskbar and Start Menu Properties box, you can also turn on or off the Taskbar toolbars by clicking **Toolbars** on the context menu that you can display by right-clicking any empty area on the Taskbar.

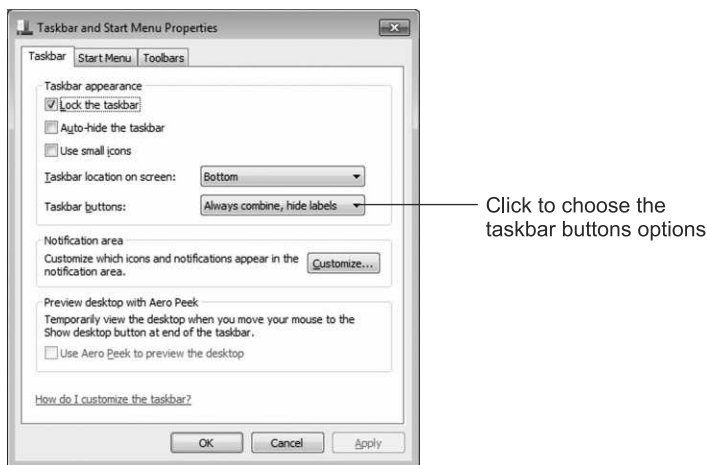


Fig. 2.24 Controlling Taskbar properties through Taskbar and Start Menu Properties dialog box

2.10.4 Grouping and Ungrouping of Program Buttons on the Taskbar

To keep the taskbar tidy, by default, Windows 7 hides labels from the taskbar buttons and combines the buttons of the multiple windows of the same program. For example, if you open two documents in Microsoft Word, Windows 7 combines the two Word windows into a single button on the taskbar. This helps to keep the taskbar well organized and does not become full in most situations. Notice that in Fig. 2.24, the “Always combine, hide labels” option is selected. The other two options are “Combine when taskbar is full” and “Never combine”. If you want to change the behavior of the taskbar buttons, click the button against “Toolbar buttons”, choose the desired option (see Fig. 2.24) and click the Apply button.

2.10.5 Adjusting Date and Time

Windows maintains a real-time clock and displays it on the right of the taskbar. When you hover mouse over the clock, Windows displays additional information about the date, e.g., “17 August 2012 Friday”. If you click the clock on the Taskbar, Windows displays a calendar and clock on the desktop.

- If you need to adjust the date or time, right click the clock on the Taskbar and choose **Adjust date/time** from the menu. Windows displays the Date and Time properties box shown in Fig. 2.25.



Fig. 2.25 *Date and Time Properties box*

The Date and Time properties box can change date and/or time as well as the time zone. Use the **Change date and time** button to display a new dialog box to change date and/or time. If you prefer, Windows can maintain additional clocks which are used to display time for another city. To define additional clocks, click the **Additional Clocks** tab in the Date and Time box. After you have defined and applied additional clocks, Windows displays time from all defined clocks when you hover or click mouse on the system time on the taskbar. The Internet Time tab of the dialog box is used to automatically adjust the computer time from an Internet time server computer.



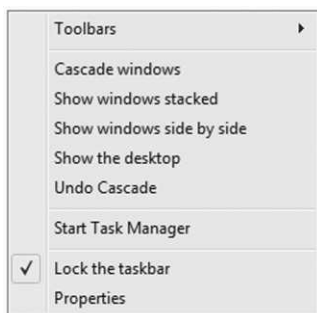
2.11 MANAGING MULTIPLE WINDOWS

As you know, Windows is a multitasking operating system. When you start several programs, each of these programs run in their respective windows. You can show these windows simultaneously on the desktop. The right click menu of taskbar contains a few commands that can help you to manipulate multiple open windows. Besides, if you are using an Aero theme, Windows supports more ways to manipulate windows, as we will discuss later. Let us open a few windows and then we will learn to manipulate them.

- Double click the **Recycle Bin** icon on the Desktop to open the Recycle Bin window. Also open the Screen Resolution windows and the Control Panel as explained in Sections 2.8 and 2.9. You may also open other windows, such as Word, Excel, Paint, Calculator, etc.

Now, multiple windows are open on your desktop. The commands to manipulate the open windows are available on the taskbar's context menu.

- Right click an empty area on the taskbar (Do not right click a button; however you may right click on the time at the right-hand corner of the taskbar.), and Windows displays the following context menu:



The *Show windows stacked* and *Show windows side by side* resize and arrange all open windows horizontally and vertically, respectively, on the desktop. The *Cascade windows* command resizes all open windows and displays these in a cascaded manner such that the title bars of all windows are always visible. Figure 2.26 displays three cascaded windows.

- To minimize all windows, you can use the **Show the desktop** command from the right click menu of the taskbar or click the Show desktop button located on the right of the taskbar.

2.11.1 Windows Flip

When multiple windows are open, at any time, you can work only in one window. The window where you can work is called the *active* window. The title bar of the active window is highlighted (usually darker than the title bars of other windows). To make any window active, you have several options:

- Click anywhere in the desired window. When you click any window, Windows brings that window on the top.
- Click the corresponding button on the taskbar. For example, in Fig. 2.26, you can click the Paint button to bring the Paint window on the top. Notice that when a program is running, Windows highlights the corresponding icon on the taskbar with a border.

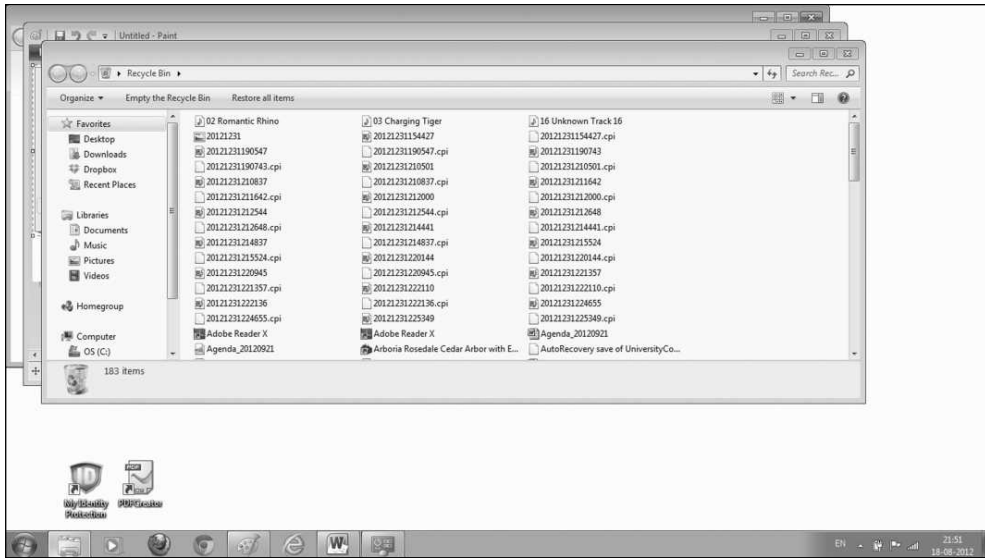
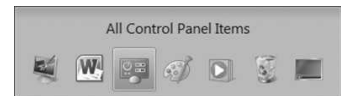


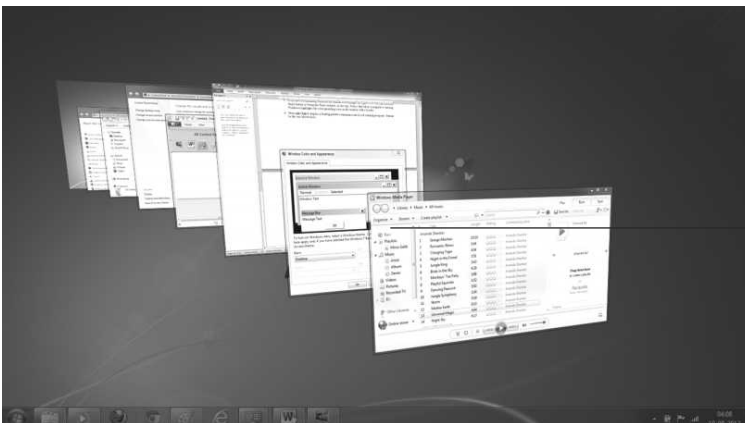
Fig. 2.26 *Cascaded windows*

- Press **Alt+Tab** to display a floating palette containing icons for all running programs, similar to the one shown here.
- While Windows is displaying the icons palette, each time you press **Tab** while holding the **Alt** key, Windows highlights the next icon. When you release the keys, Windows brings the window of the highlighted icon to the front.




2.11.2 Windows Flip 3D

If you are running an Aero theme and you are using Windows Home Premium and higher, Windows supports a very interesting way to flip windows. On pressing **Win + Tab**, Windows displays a live miniature view of all running applications similar to Fig. 2.27.



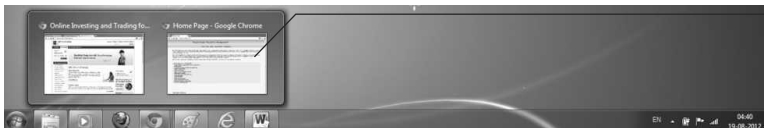
Press the **Tab** key or turn the scroll wheel of the mouse to shuffle windows.

Fig. 2.27 *Windows 3D Flip*

- While Windows is displaying a live miniature view of all running application, each time you press **Tab** while holding the  key, Windows shuffles the miniature windows. When the desired window is in the front, release the keys and the 3D view disappears and the selected windows comes to the front.

2.11.3 Using Aero Peek to Preview an Open Window

If you are running an Aero theme, you may be able to use a new feature called *Aero Peek* which displays thumbnails of the open window when you move the mouse pointer on the icon of a running program on the taskbar. If multiple windows are open within a program, e.g., you have opened two documents in the Word program, Windows displays a separate thumbnail for each document. You not only see the thumbnail of the open window, if you hover the mouse pointer on the thumbnail (see Fig. 2.28), Windows displays the full size preview of the window on the screen. Now, if you want to switch to the corresponding window, click the thumbnail. On the other hand, if you do not want to switch to the window, move the mouse pointer away from the thumbnail and the thumbnail(s) disappear.











Move mouse pointer on the thumbnail to preview the full size window on the screen. Click the thumbnail to bring the corresponding window to front

Fig. 2.28 Taskbar displaying thumbnails of open windows

Note If you are using a non-Aero theme or your PC cannot handle Aero themes, when you hover mouse on icon of a running program, Windows displays the title(s) of the corresponding window instead of the thumbnail(s).


2.11.4 Aero Snap

The Aero snap feature of Windows 7 makes it very easy to maximize, restore or make it full height, half-width window. You can accomplish this with mouse or keyboard shortcut keys.

- To maximize a window, drag its title bar to the top edge of your monitor. If you want to use the keyboard shortcut, press the Windows key () +  (Press the keys simultaneously; do not press the + key.)
- To restore the maximized window, drag its title bar down from the top of the monitor screen. Alternatively, press the shortcut keys:  + .
- To make a window full height, half width, drag its title bar to the left or right edge of your monitor. And to restore the half width window, drag its title bar toward the centre of the monitor screen. Alternatively, you may use the shortcut keys:  +  and  + .

2.11.5 Aero Shake

Consider Fig. 2.29 where several windows are open on the monitor while the Windows Media Player is the active window. When too many windows are open, they distract attention from the active window. Aero Shake is a very interesting feature that you can use to minimize all windows except the current or active window.

- Click and hold the left mouse button on the title bar and shake the mouse (rapidly move back and forth) to minimize all windows except the active window. Alternatively, press the shortcut keys:  + **Home**. Follow the same procedure to restore the minimized windows.

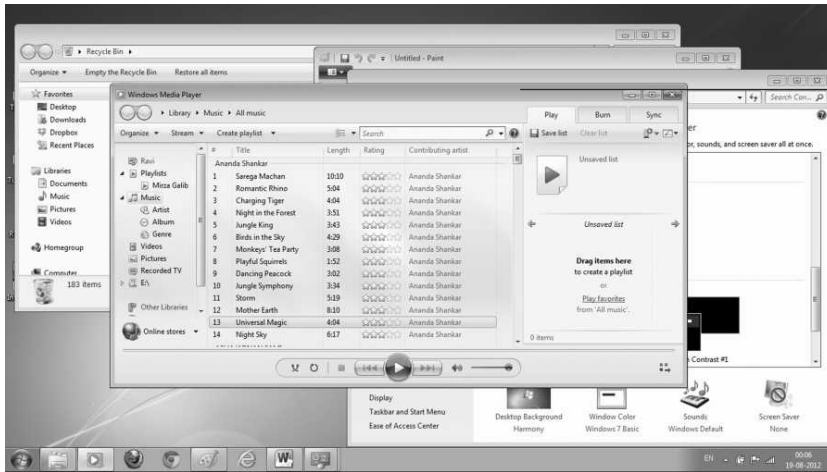



Fig. 2.29 Using Aero Shake to minimize all windows except the active window

2.11.6 Using the Scroll Bar

Figure 2.30 displays the Windows help and Support window with vertical and horizontal scroll bars. You may press **F1** to open this window. (If you do not see scroll bars in the window on your PC, reduce the size of the window.) To scroll the contents of the window up with mouse, you can do any of the following:

1. Click the scroll down button . This button is located at the bottom of the scroll bar. If you keep the mouse button pressed, the window contents scrolls continuously.

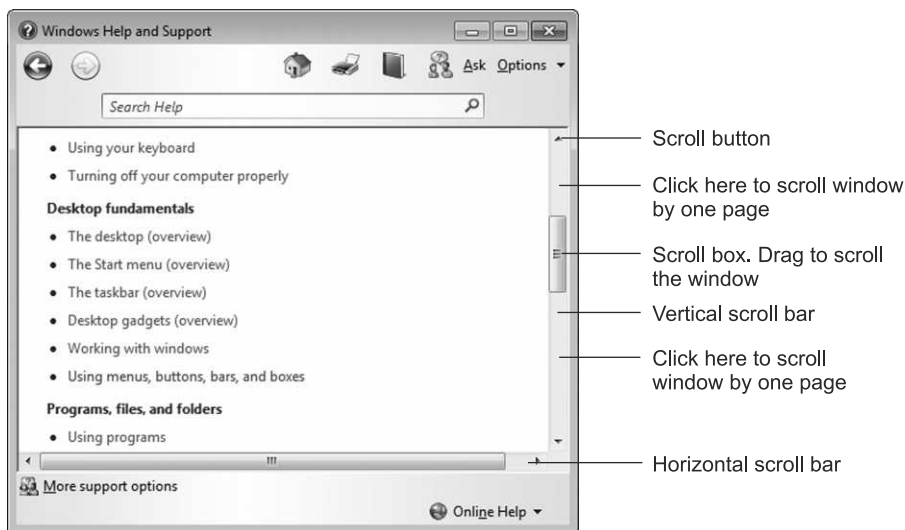



Fig. 2.30 The Windows help and support window

2. Press and hold the left mouse button on the scroll box. Without releasing the mouse button, drag it down. As you drag the mouse down, the contents of the window move up.
3. If your mouse has the scroll wheel (see Fig. 2.2), you can rotate this wheel down to scroll the window contents up.

Similarly, to scroll down the contents of the window, either click the scroll up button , or drag the scroll box up, or use the mouse scroll wheel. To scroll the window up or down with the keyboard, you can use the arrow keys. As shown in the Fig. 2.30, you can click above and below the scroll box to scroll the contents of the window by one page. In the same way, to scroll the contents of the window horizontally, you can use the scroll buttons or scroll box in the horizontal scroll bar.

Note You will see that the size of the scroll box is different in different windows. Even in the same window, the vertical and horizontal scroll boxes are usually of different size. In fact, the size of the scroll box represents the amount of information being displayed. A bigger scroll box indicates that more percentage of the total information is being displayed in the window.

2.12 CREATING A NEW FOLDER OR FILE ON DESKTOP



Windows can help you to create a new empty folder or file on the desktop. Let us create a new folder on the desktop. Once a folder has been created, you can store documents (files) in the folder. A folder can also contain one or more subfolders.

- Right click mouse at any empty area on the desktop to display a context menu and click **New** in the menu.
Windows displays a submenu similar to Fig. 2.31 that displays the various items you can create on the desktop. The submenu you will get on your PC depends on the software installed in your PC.

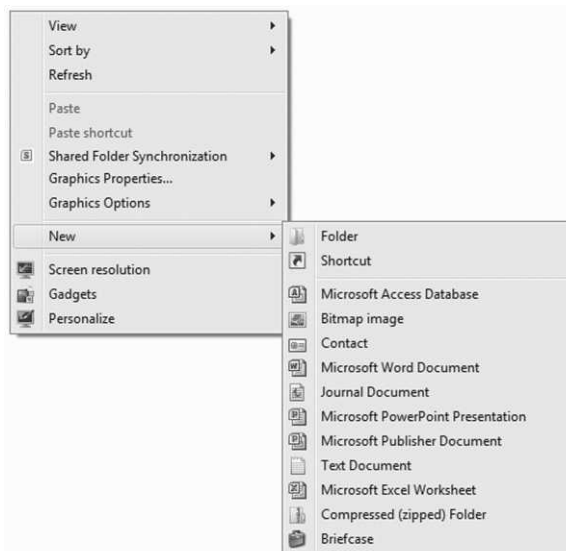


Fig. 2.31 Creating a new folder on Desktop

- Click **Folder** in the submenu.
Windows creates a new folder on the desktop and names it 'New Folder'. Notice that the folder name, i.e., 'New Folder' is highlighted. Let us change it to 'My Folder'.
- Type **My Folder** and press **Enter**, and Windows renames 'New Folder' to 'My Folder'.


Note To rename any item on the desktop, right click the mouse on that item and choose the Rename command from the menu. Then type the new name or edit the existing name. Finally press Enter to ask Windows to apply the new name.

In the same way, you can create a new file by choosing the appropriate file type from the New submenu. After a new file has been created, you may double click to open that file to add or edit contents.

2.13 EXPLORING THE CONTENTS OF THE COMPUTER WITH WINDOWS EXPLORER



Windows Explorer enables you to see the folder and files in your computer in a hierarchical structure. Besides looking at the files and folder, Windows Explorer can also help you to copy or move contents of one folder to another. You can also create new folders or delete existing folders or files. You can also open a file in the associated program from Windows Explorer. Windows Explorer works not only on the built-in hard-disk drive, it also works on external drives, USB Flash memory and computers connected on the network. Windows Explorer also helps you to maintain *libraries*, a new feature in Windows 7. Let us open Windows Explorer.

- Click , the Windows Explorer icon on the taskbar. If you do not find this icon on the taskbar, right click the **Start** button on the taskbar and click **Open Windows Explorer** on the context menu. Windows opens the Windows Explorer window similar to that shown in Fig. 2.32.

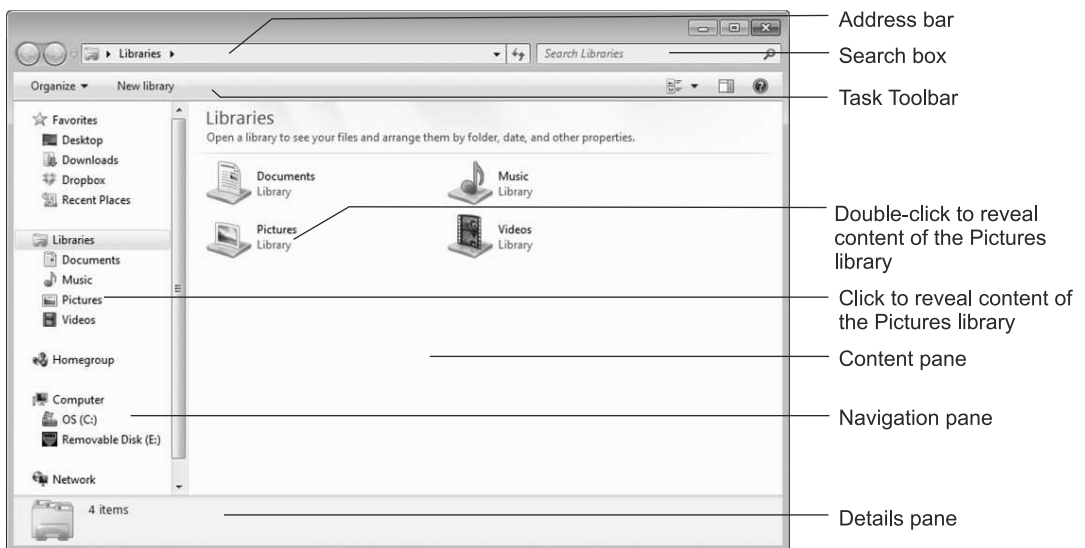


Fig. 2.32 Windows Explorer

2.13.1 Title Bar and Address Bar

Like a typical window, the Windows Explorer window contains the title bar at the top, though it remains blank. On the top right corner of the window, you find the typical Minimize, Maximize/Restore and Close buttons. Below the title bar is located the *address bar* on the left and the *search box* on the right. The address bar displays the path of the currently selected location. You can also type an address of a folder (location) in the address bar to see files and folder contained in that folder. Notice that Windows Explorer displays the address of the current location in easy to understand *bread-crumbs* notation where folder names are separated by little triangles (▸), e.g., “▸ Libraries ▸ Music ▸ Kishore” rather than the old slash notation (Libraries\Music\Kishore), though you can still type the address in the address box in the slash notation. The search box, located on the right side of the address bar is helpful in locating files in the selected folder and its subfolder; just type any part of the filename in the search box and Windows displays the matching result.

Located on the left side of the address bar are the Forward and Back buttons, similar to those found on the Internet browsers. These buttons are used for the same purpose. For instance, with reference to Fig. 2.32, if you click **Music**, Windows Explorer selects the Music folder within the Libraries folder. Now, if you click the **Back** button, Windows Explorer selects the Libraries folder. After moving back the Libraries folder, you may click the **Forward** button to jump to the Music folder.

2.13.2 Navigation Pane

Navigation pane, which is located on the left side of the Windows Explorer window, contains a broad map of folders and other locations in your computer. When you select a location in the Navigation pane, Windows displays its contents (files and folders) in the Content pane. To help you quickly locate files on your computer, the Navigation pane contains the *Favorites* links list at the top. By default, it includes icons for *Desktop*, *Downloads* and *Recent Places*, however, you can add other locations to the Favorites list with ease:

- Click the location, e.g., OS (C:) in Fig. 2.32 that you want to add to the Favorites list. Then right click **Favorites** to display the context menu and click **Add current location to favorites**. Similarly, if you want to remove an item (e.g., Dropbox in Fig. 2.32) from the Favorites list, right click the item and click **Remove** in the context menu.

Besides Favorites, the Navigation pane includes other important locations in your computer, such as Libraries, Homegroup, Computer, Network, etc.

2.13.3 Libraries

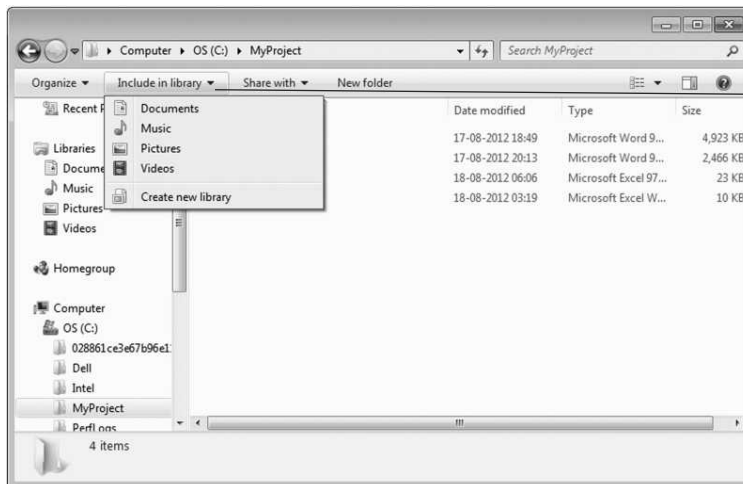
The concept of libraries is new in Windows 7. A library is like special folder, which can display contents from other folders. In fact, a library does not contain the folders; it just contains links to other folders. If you are familiar with playlists used with Media Players, libraries are like playlists, and like a playlist, you can add (or remove) folders to a library without physically copying (or deleting) files to the library. Besides, including folders from your hard disk, Libraries can also include folders from removable disks and network.

Windows 7 initially starts with four libraries: Documents, Music, Pictures and Videos. If you wish, you can use the Documents library to manage all your documents. For example, if you have some Microsoft Word document files in the C:\Raj\Sales folder, you can include this folder in the Documents library. Similarly, you can also include C:\Raj\Stores, which contains Excel workbook documents in the Documents Library. To include a folder in a library:

- Select the folder that you want to include in the library and click **Include in Library** on the Task toolbar, as shown in Fig. 2.33. Windows Explorer displays a menu containing list of libraries.
- Click the desired library name, and the folder gets added to the library and its name appears under the corresponding library.

If you find that the default libraries do not meet your requirements, you can create a new library with these simple steps:

- Click **Libraries** in the Navigation pane and the New Library link appears on the Task toolbar. (See Fig. 2.32.)
- Click **New Library** on the toolbar and Windows Explorer creates a new library, names it something like “New Library” and puts the name in edit mode. Type a suitable name, e.g., Book Project and press **Enter**.



To include a folder in a library, select it in the Navigation pane, click Include in Library on the Task toolbar and click the desired library

Fig. 2.33 Including a folder in library

The new library is ready. You can add folders to the library as already described. Later, if you need to change the name of the library, right click the library and choose the Rename command from the context menu.

2.13.4 Content Pane

The Content Pane displays the contents of the folder or location selected in the Navigation pane. For instance, in Fig. 2.32, the Content pane is displaying the content of Libraries. Notice that Libraries is highlighted in the Navigation pane and is also shown at the top of the Content pane. Depending on what is contained in the selected location in the Navigation pane, the Content pane display may include location, folder, files etc.

- To reveal the contents of a folder or location, click it in the Navigation pane or double click it in the Content pane, as illustrated in Fig. 2.32. If the displayed contents include a folder, you may double click it to display contents of that folder. Figure 2.34 displays contents of the Sample Pictures folder in Pictures Library.

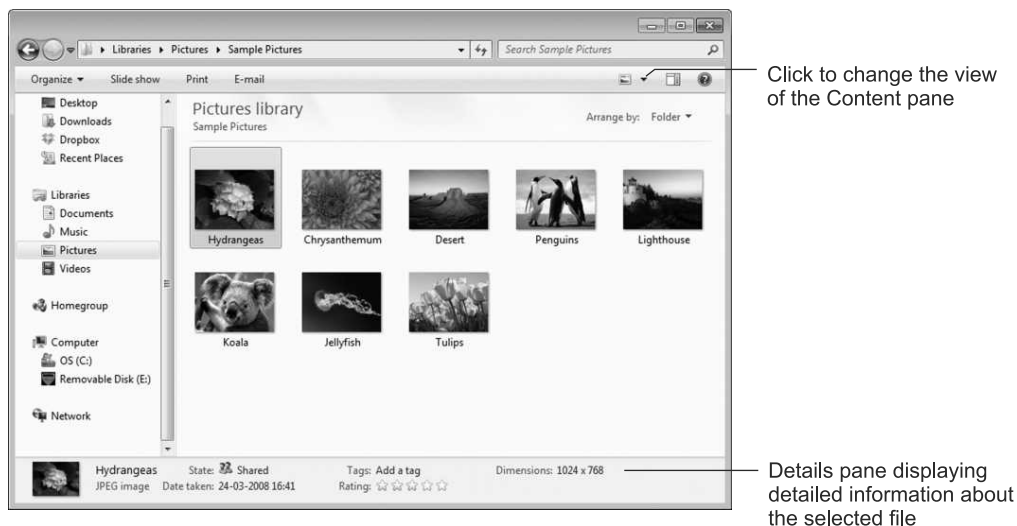


Fig. 2.34 Windows Explorer displaying contents of the Sample Pictures folder

2.13.5 Details Pane

The strip at the bottom of the Explorer window is called the *Details* pane, which displays detailed information about the selected item in the Content pane. To select an item, click its name or icon. If no item is selected, the Details pane displays the number of items displayed in the Content pane. (See Fig. 2.32.)

Tip You can change the amount of information Windows displays in the Details pane by changing its size. To change the size, either drag the border between Contents and Details panes or right click the Details pane and choose the size command from the context menu.

2.13.6 Changing the View of the Content Pane

Windows Explorer can display the details in the Content pane in several ways, such as Icons (Extra Large, Large, Medium and Small), List, Details, Tiles and Contents. The view used in Fig. 2.32 is Large Icons. The Icons view is generally good for limited number of files, generally pictures. On the other hand, when there are lots of files to be displayed, the preferred views are Details and List.

- To change the Content pane view, click the arrow on the right side of Task Toolbar (see Fig. 2.34) to display a list of view options and click the desired option. Figure 2.35 displays contents of the Sample Pictures folder in Details view.
- As you see in Fig. 2.35, the Details view provides several details about the files. In fact, Windows Explorer can display a lot of other information about the files; to choose more columns right click in the headings area and choose the required columns from the context menu, as illustrated in the figure.
- If you need to sort the list of files by name, date, size, etc., click the corresponding column name. For example, to sort the list by name, click **Name**, as illustrated in Fig. 2.35.

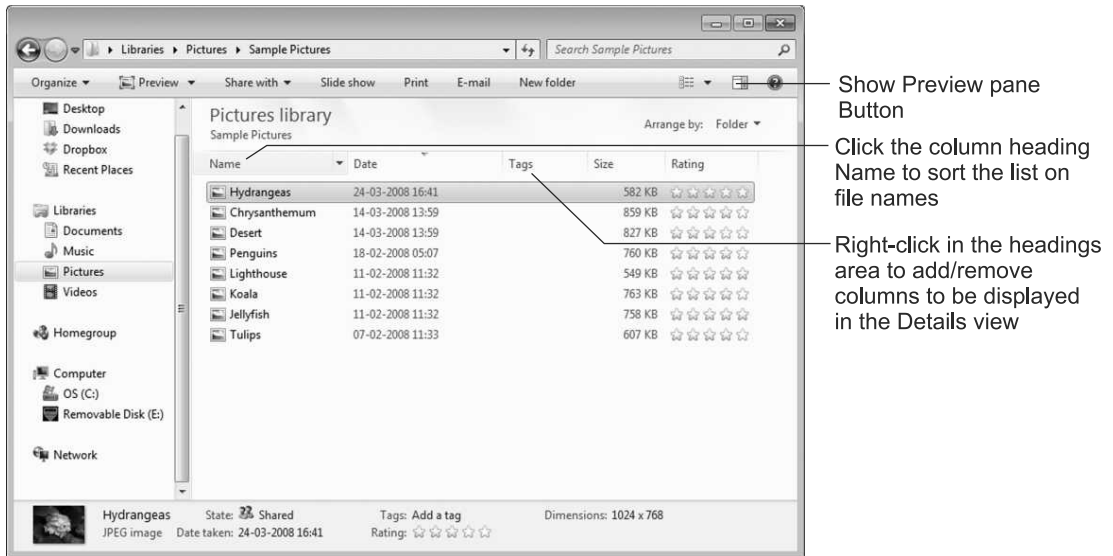


Fig. 2.35 Contents of the Sample Pictures folder displayed in the Details view

2.13.7 Preview Pane

The Preview pane, which is off by default, displays a preview of the selected file. Windows can display preview of several types of files, including pictures, text, documents, spread sheets, sounds and movies. For sounds and video files, the preview includes the play and stop buttons, i.e., you can play these files within Windows Explorer, without having to start Windows Media Player. While preview of sound and video files may be helpful in some situations, preview of pictures, text, document and spread sheet files is definitely useful as you can preview the contents of the file without opening these.

- To preview a file, select its name/icon in the Content pane and click the **Show Preview pane** button, if required, as illustrated in Fig. 2.35. Figure 2.36 displays the preview of a Word document.

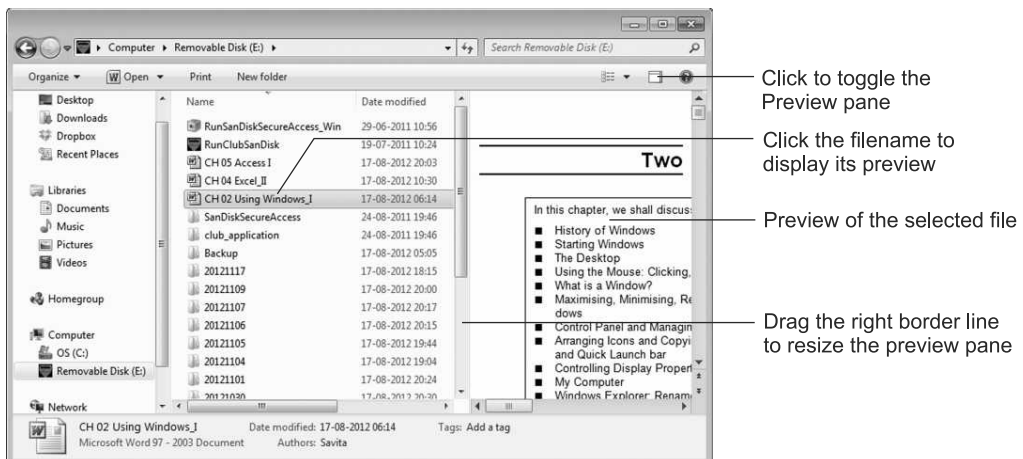


Fig. 2.36 The Preview pane displaying the preview of a Word document

- All panes, including the Preview pane are resizable. To resize the preview pane, drag the right border line between the Content and Preview panes, as illustrated in Fig. 2.36. To toggle the Preview pane, click the Preview Pane button.

2.13.8 Expanding/Collapsing Items in the Navigation Pane

In Windows, folders are stored in hierarchical structure, where each folder can have any number of subfolders, and each subfolder can contain any number of sub-subfolders. You can store files in any folder or subfolder. Windows also maintains some special locations (in fact, folders), such as Desktop and Libraries, which can also contain any number of folders and files. A typical PC can have hundreds of folders and subfolders. To help you view the desired folders and hide folders you are not interested in, the Navigation pane allows you to expand and collapse folders and other locations. To indicate whether a folder/location is in expanded or collapsed state, Windows Explorer displays icons to the left of items in the Navigation pane. Consider the Windows Explorer windows show in Fig. 2.37.

Notice that Windows Explorer displays solid down pointing triangle (▼) or empty triangle (▶) icons to the left of the items in the Navigation pane. (If you do not see these icons, click some item, e.g., Libraries in the Navigation pane.) The solid down pointing triangle indicates that Windows Explorer is displaying all subfolders of the selected item. On the other hand, the empty triangle indicates that there are some subfolders under the selected item that are not displayed at the moment. For instance, in Fig. 2.37, Libraries is in expanded state while Favourites is in collapsed state.

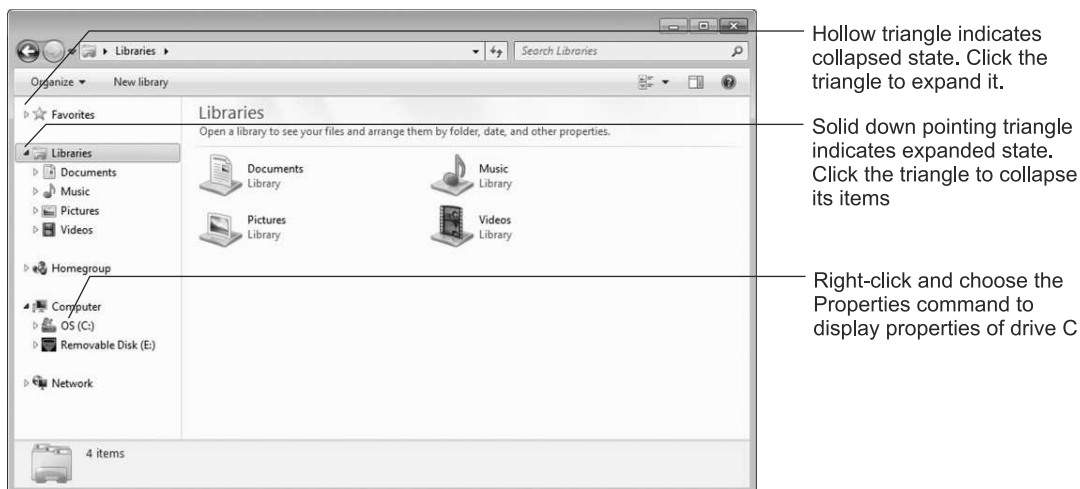


Fig. 2.37 Expanding and Collapsing items in the Navigation

- If you click the solid triangle to the left of Libraries, Windows Explorer hides Documents, Music, Pictures and Videos. On the other hand, on clicking the hollow triangle displayed to the left of Favorites, Windows Explorer reveals items available under Favorites.
- If you right click a folder/location in the Navigation pane, Windows displays a context menu which includes several useful commands, such as Copy, Rename and Delete. This menu also includes Collapse or Expand command, as applicable. Thus, you can also use the context menu to expand or collapse a folder/location in the Navigation pane.

2.13.9 Displaying Properties of Drives, Folders and Files

While using Windows Explorer, if you right click a folder or drive, Windows displays a context menu that includes several useful commands, such as Copy, Paste, Rename, Delete and Properties. While we will talk about Copy, Paste, Rename in a moment, let us discuss the *Properties* command, which provides useful information about the item. The information Windows displays depends on the item, e.g., the properties of a file differ from that of a folder. Figure 2.38 shows the General tab of the Properties box of drive C with useful information, such as the drive capacity (size), used space and free space. Other tabs of the box provide tools and other details about the drive. The properties box of a folder provides details about the number of files and folders contained in the selected folder and the spaced used by these.

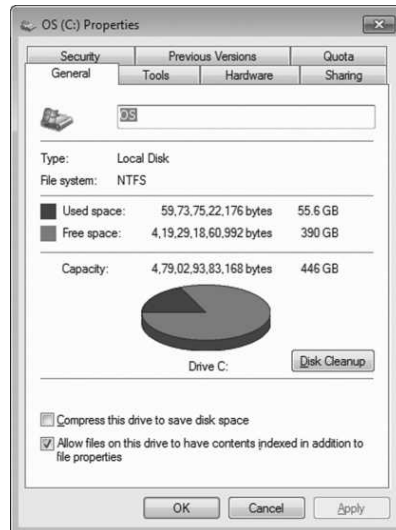


Fig. 2.38 Properties of a hard disk

Tip Windows allows you to change some properties of files and folders through the Properties box. Two such useful properties are *Read Only* and *Hidden*, though you should use Hidden with caution.

2.13.10 Formatting a Disk/USB Flash Drive

If your PC has a floppy disk drive, Windows Explorer can help you to format a disk. It can also format a removable USB Flash drive. Here are the steps to format a floppy disk or USB Flash drive:

1. Open Windows Explorer and expand Computer in the Navigation pane to reveal the floppy disk drive and other removable disk drives connected to your computer.
2. If formatting a floppy disk, put the disk to be formatted in the floppy disk drive.
3. Right click the drive icon in the Navigation pane to display a context menu and choose the **Format** command from the menu. Windows displays the Format dialog box where you can choose the format options and define a volume name for the disk. (See Fig. 2.39). The default options are good for normal formatting; however, you should assign a meaningful volume name to the disk.
4. Click **Start** button to start the format process.

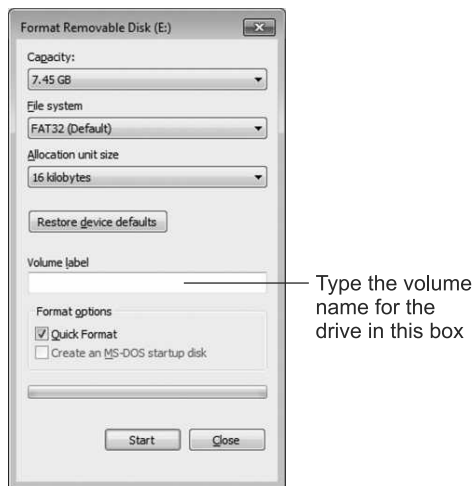


Fig. 2.39 Formatting a removable (USB) Flash drive

Caution When you format a disk or USB Flash drive, you lose all files on the disk/drive. Also, do not format the hard disk drive (C:)

2.13.11 Renaming/Deleting a File or Folder

To rename a file or folder in a Windows Explorer window, perform the following steps:

1. Right click the file or folder you want to rename to display a context menu.
2. Click the **Rename** command in the context menu.
3. Type the new name and then press **Enter**.

The rename command is also available in the Organize menu that you can display by clicking the **Organize** button on the Task toolbar, as illustrated in Fig. 2.40.

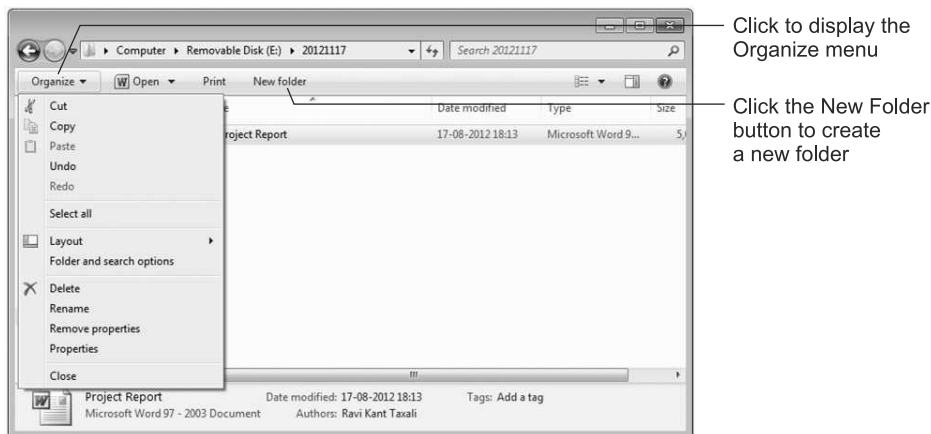


Fig. 2.40 Using the Organize menu

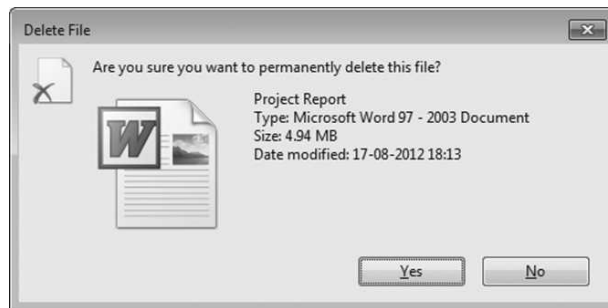
Note Windows Explorer supports a menu bar with File, Edit, View, Tools and Help menus. The File menu displays a menu which is similar to the Context menu you get on right clicking a file or folder. To display the menu, press **Alt** or **F10** while the Windows Explorer is active.

Here is another way to rename a file or folder:

1. Click the file or folder you want to rename in the Content pane. Windows highlights the selected item.
2. Click again to ask Windows to put the item in the Rename mode.
3. Type the new name and then press the Enter key.

Caution If Windows Explorer displays the *extension* name, do not change it when renaming a file. The extension name is 3 or 4 character name on the right side of the dot, e.g., in Marks.doc, “doc” is the extension name. Also, do not use special characters such as :, ;, \$, etc., in the file name.

- To delete a file or folder, click to select it in the Explorer window and press the **Del** key. Alternatively, choose the **Delete** command from the right click or Organize menu. Then, Windows displays the Delete File confirmation dialog box, as shown below.



When you delete a file, it does not disappear from your PC. Instead, Windows puts it in Recycle Bin. Therefore, if you delete a file by mistake, you may undelete it from the Recycle Bin. This is discussed later in this chapter. On the other hand, if you do not want to put the file in the Recycle Bin, i.e., permanently delete a file, select the file or files that you want to delete, and then press and hold the **Shift** key while pressing **Del**.

2.13.12 Creating a New Folder/File

Windows Explorer can help you create a new folder under the selected folder with ease.

- Click the **New Folder** button on the Task toolbar, as illustrated in Fig. 2.40. Alternatively, right click empty area in the Content pane and choose **New, Folder** from the context menu.
- Windows creates a new folder and names it “New folder” or something similar. Type the desired name for folder and press **Enter**.

To create a new file in the selected drive/folder:

- Right click empty area in the Content pane to display a context menu and click **New** in the menu. Windows Explorer displays a submenu containing the various types of files you can create. (See Fig. 2.31.)

- Click the desired file type in the submenu and Windows Explorer creates the file with a generic name, such as “New Microsoft Word Document”. Type the desired filename and press **Enter**.

2.13.13 Selecting Multiple Files/Folders

While working in Windows, you often need to select multiple files/folders to copy, move or delete several files at once. You can select multiple files in any window that is displaying a list of files and folder, including Windows Explorer. Consider the Explorer window shown in Fig. 2.41.

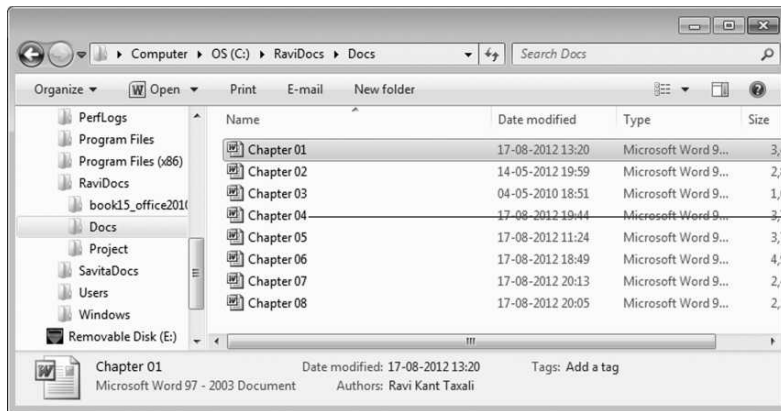


Fig. 2.41 Selecting Multiple Files

We want to select Chapter 01 through Chapter 04 files. In order to do so:

- Select the first file (Chapter 01) in the usual way by clicking once. To select all files up to Chapter 04, press and hold the **Shift** key and the click the mouse (called *Shift Click* or Shift+Click). Alternatively, press and hold the **Shift** key and press the down arrow key three times. When you select multiple files and/or folders, Windows Explorer displays a suitable message, e.g., “4 items selected.” in the Details pane. (See Fig. 2.42.)

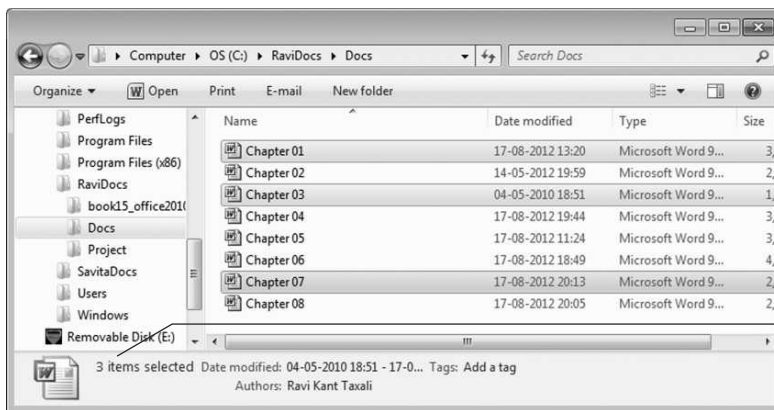


Fig. 2.42 Multiple files selected with Ctrl Click

Consider another situation where we want to select Chapter 01, Chapter 03 and Chapter 07 files. To achieve this:

- Select the first file (Chapter 01) in the usual way by clicking the file name in the Windows Explorer. Now to select next file, press and hold the **Ctrl** key and then click the Chapter 03 file. (called *Control Click* or **Ctrl+Click**). This will select Chapter 03 file while keeping Chapter 01 selected, but will not select the Chapter 02 file. In the same way, **Ctrl+Click** Chapter 07 to select this file while keeping previously selected files intact. Figure 2.42 displays multiple files selected through **Ctrl+Click**.

Tip To select all contents of the current folder, i.e., all files and subfolders, press **Ctrl+A** or choose the **Select All** command from the **Organise** menu.

2.13.14 Copying Files to the Same Folder

Sometimes you may want to make a copy of a file in the same folder for the purpose of backup or making changes to a file while keeping the original content intact for reference. To make a copy of the file available in the Content pane of Windows Explorer, perform these steps.

1. Right click the file name or its icon to display the context menu.
2. Click the **Copy** command in the menu.
3. Right click any empty space in the Content pane to display the context menu, and click the **Paste** command and Windows makes a copy of the file and names it accordingly, e.g., *Chapter 01 - Copy*.

You can also copy file(s) by using keyboard shortcut keys.

1. Select the file(s) you want to copy and press **Ctrl+C** keys. This copies the file in PC's memory.
2. Next, press **Ctrl+V** keys and Windows makes a copy of the file(s).

Follow the same procedure to copy folders or combination of file(s) and folder(s).

2.13.15 Copying Files/Folders to a Different Folder

If you want to copy one or more files to a different folder on the same drive, or even to a different drive, e.g., to a floppy disk drive or USB flash drive, the steps are almost similar.

1. Navigate to the required folder and select the desired file(s) and/or folder(s) you want to copy.
2. Now press **Ctrl+C** keys, or choose the **Copy** command from the **Context/Organize** menu to copy the selected items in PC's memory.
3. Select the destination folder, i.e., the folder where you want to copy the files in the **Navigation** folder.
4. Press **Ctrl+V** or choose the **Paste** command from the **Organize/Context** menu.

Note When copying a large number of files or one or more large size files, Windows displays a message box which shows the progress of the copy operation.

2.13.16 Copying Files using Mouse

You can copy the selected files to any folder on the same or different drive with mouse very easily. Consider the Explorer window shown in Fig. 2.43. We want to copy the first three files from the

Docs folder (source) to the Projects folder (destination) located under the Zoom folder. This can be accomplished with the following steps:

1. Click the source folder in the Navigation pane and select the file(s) you want to copy.
2. Scroll and expand any folder if required to display the destination folder. However, do not click the destination folder; otherwise, you will end up de-selecting the files selected in the previous step.
3. Drag the selected files with Ctrl key pressed to the destination folder (Projects). Windows Explorer changes the shape of the mouse pointer by attaching 'copies of the selected files'. It also shows '+ Copy to foldername' inside a small tooltip box as you move the mouse pointer to a folder in the Navigation pane, as shown in Fig. 2.43. As you drag the mouse, Windows Explorer highlights one of the folders. When you release the mouse button, it would copy the files to the highlighted folder.
4. After you have positioned the mouse pointer on destination folder, it is highlighted and its name is being displayed in the tooltip box attached to the mouse pointer, release the mouse button and then release the Ctrl key. Windows now copies the files to that folder.

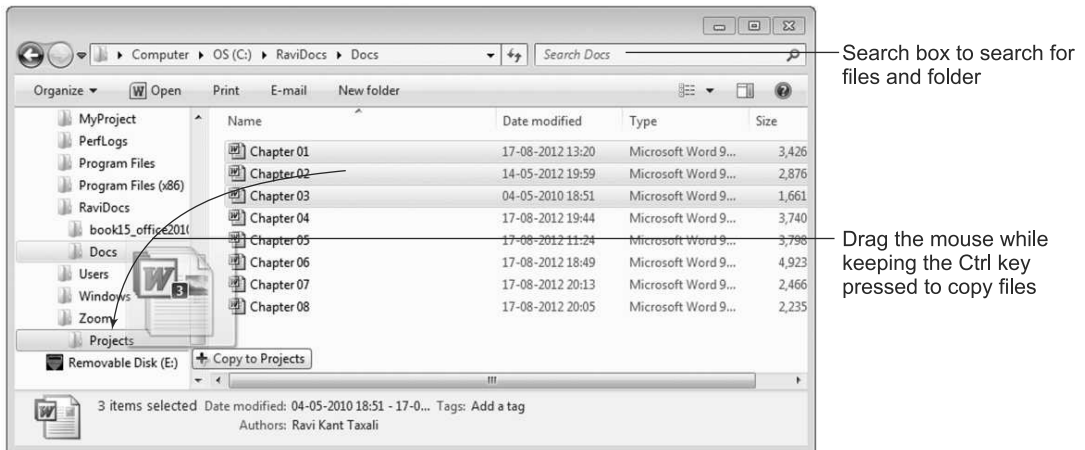


Fig. 2.43 Copying files using the mouse

- Tip**
1. While copying or moving files, you may find it convenient if two Windows Explorer windows are open. In that case, you can select source and destination folders in different Explorer windows, making it convenient to drag and drop files. To open another Explorer window while one Windows Explorer is open, press **Ctrl+N** or **Windows + E**.
 2. While copying files to a folder on another drive, e.g., hard disk drive to floppy or USB Flash memory drive, you may drag and drop files without keeping the Ctrl key pressed.

2.13.17 Quickly Copying Files to Floppy Drive or USB Flash Drive

Windows provides a quick way to copy the selected files to the floppy drive or USB Flash drive. Use the following steps to accomplish this.

1. Select the file(s) that you want to copy.

2. Right click the selected files and click the **Send To** command from the context menu. Then choose the desired destination.

Tip The Send To command can also be used to send the selected file to a *mail recipient*, *fax recipient* or to create a shortcut to this file on the desktop.

2.13.18 Moving Files to Another Folder

Windows allows you to easily move selected file(s) from the current folder to another folder on the same or different drive. When you move a file, the file is removed (deleted) from the original folder and placed (copied) in the new folder. The steps are similar to copying the files, i.e.,

1. Select the file(s) you want to move in Windows Explorer.
2. Right click the selected file(s) and click the Cut command in the context menu.
3. Now select the destination folder in the same or different Explorer window.
4. Press **Ctrl+V** or choose the paste command from the Organize or context menu.

If you want to move the selected files to another folder on the same drive with mouse, just drag and drop the files to destination folder. On the other hand, if you want to move files to a folder on another drive, you must keep the Shift key pressed while dragging and dropping the files.

2.14 SEARCHING FOR FILES AND FOLDER IN WINDOWS EXPLORER



As you know that the modern PCs contain a large hard disk drive and it contains so many files and folders that it is quite normal to store a file or folder on the hard disk and not remember which folder it was stored in. Windows can help you to find the file(s) or folder(s) you are looking for the *search box* in the Start menu; we have already discussed this in Section 2.5.2. Windows Explorer also contains a similar search box in the top-right corner. (See Fig. 2.43.) The search box in Windows Explorer works similar to that in the Start menu, except that it searches for files within the selected folder and you can optionally specify *search filters*. Follow these steps to search for files and folders in Windows Explorer.

- Open Windows Explorer and select the drive or folder where you want to perform the search in the Navigation pane. If you do not know the folder or location, select root folder, e.g., C:. In the same way, if you want to search in a CD or USB Flash drive, choose the corresponding drive or folder.
- Type a few characters from the file name or content of the file in the search box. For instance, if you are looking for “CH 02 Word”, you may type **CH** or **02** or **Word**. As soon as you start typing characters in the search box, Windows Explorer starts displaying results in the Content pane.

Notice that when you type characters in the Search box, you see some links in blue colors, such as Authors, Type, Date modified, Size, kind, type, album, etc., as shown in Fig. 2.44. These links are used to apply the corresponding filter on the search results. You would normally use these filters to limit the search results or to perform complex search. For instance, you can use *Date Modified* to search for files that were modified on a specific date, date range, yesterday, last week, and so on.

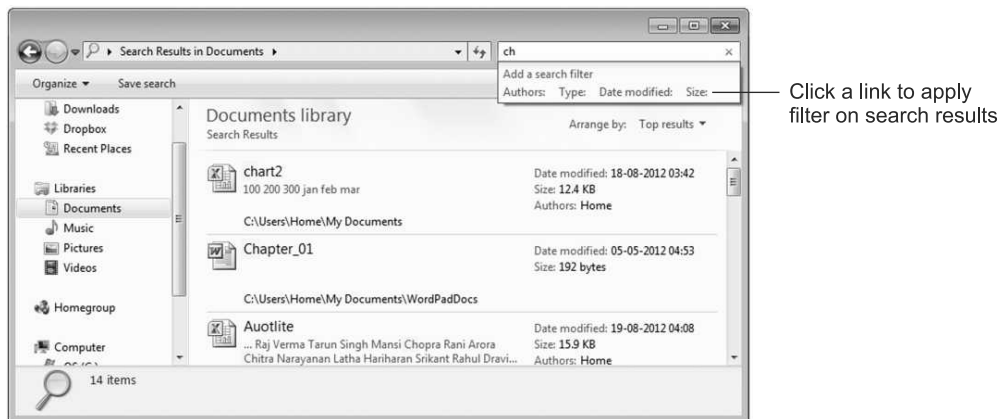


Fig. 2.44 Windows Explorer display search results and filter links

2.15 COMPRESSING (ZIPPING) FILES AND FOLDERS



Unlike early 2000s, nowadays the storage space in the computer is not at premium, therefore, there is hardly any need to compress files stored on the computer. However, if you need to send a file as an email attachment or send it over an internal network or the Internet, it may be helpful to *compress* it prior to sending. Compressing, also known as *zipping* make the file smaller than the normal file, therefore, a compressed file takes less time to send over the network and the email recipient will also find it easier to download the smaller file. Windows 7 includes built-in features to compress and un-compress files and folders. Here are the steps to compress (zip) files:

- Select the files you want to compress (zip) and right click the selected files to display the context menu.
- Click **Send to** in the context menu to display a submenu and then click Compressed (zipped) folder in the submenu, as illustrated in Fig. 2.45.

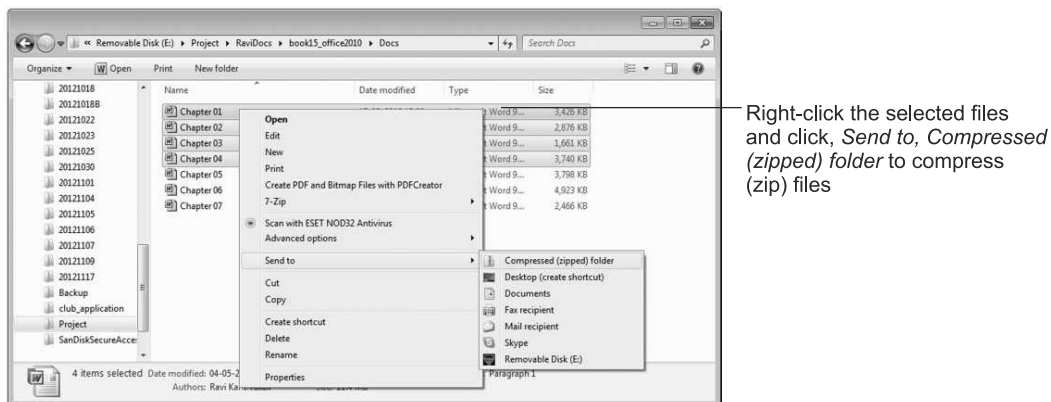


Fig. 2.45 Compressing (zipping) files in Windows Explorer

- Windows starts compressing the files and displays the progress in a progress box. When the compressing is complete, it creates a zipped folder in the same location where the files you selected are located (e.g., Project in Fig. 2.45.). Windows assigns a default name to the zipped folder it created and puts the folder name in edit mode. Type a suitable name, e.g., **Zipped Project files** and press **Enter** to rename the folder.

The process of compressing a single file, a folder or multiple folders is exactly the same as described.

Tip If you are using an older version of Windows which does not have built-in support for compressing files, you may download the zipping program from the Internet. One such free open source zipping program is **7-Zip** that can be downloaded from www.7-zip.org.

2.15.1 Decompressing (Unzipping) a Compressed Folder

As you know, the compressed files are placed inside a compressed (zipped) folder. To get original files, you need to decompress it, which is also known as unzip/extract. You can decompress (extract) selected files or all files at once at any location/folder in your computer. To a large extent, a compressed (zipped) folder is like a regular folders and if you double click it, Windows displays list of files and folders contained in that folder. In fact, if you double click any of the zipped file contained in a compressed folder, Windows automatically unzips it and opens it in read-only mode. To create a regular (unzipped) file from a zipped folder:

- Double click the compressed (zipped) folder in Windows Explorer to reveal its contents.
- Drag the compressed file to any regular folder. You may even drag the file to the desktop. The folder where you dragged the file to contains an uncompressed copy of the compressed file.

To extract all files from a compressed folder:

- Right click the compressed (zipped) folder and click **Extract all** on the context menu.

Windows displays the Extract Compressed (Zipped) Folders dialog box shown in Fig. 2.46. By default, Windows extracts the files to the same folder where the zipped folder is located.

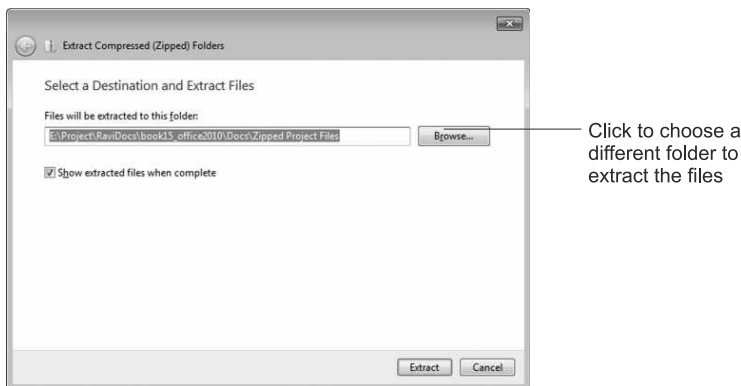


Fig. 2.46 *Extracting files from a zipped folder*

- Click the **Browse** button to choose a different folder to extract the files to. Finally click **Extract** to ask Windows to extract the files.



2.16 USING RECYCLE BIN TO RESTORE ITEMS

As you know, the Recycle Bin holds the items you delete. After deleting an item, if you realise that you made a mistake and want to get it back, you can use the Recycle Bin. (Caution: Items deleted from a floppy disk, USB Flash drive or a network drive are not sent to Recycle Bin.) Figure 2.47 displays Recycle Bin open in Windows Explorer, which you can open by clicking the Recycle Bin icon on your desktop. As Recycle Bin is opened in Windows Explorer, you can change the view of Details pane as per your preference by using the view button on the Task toolbar.

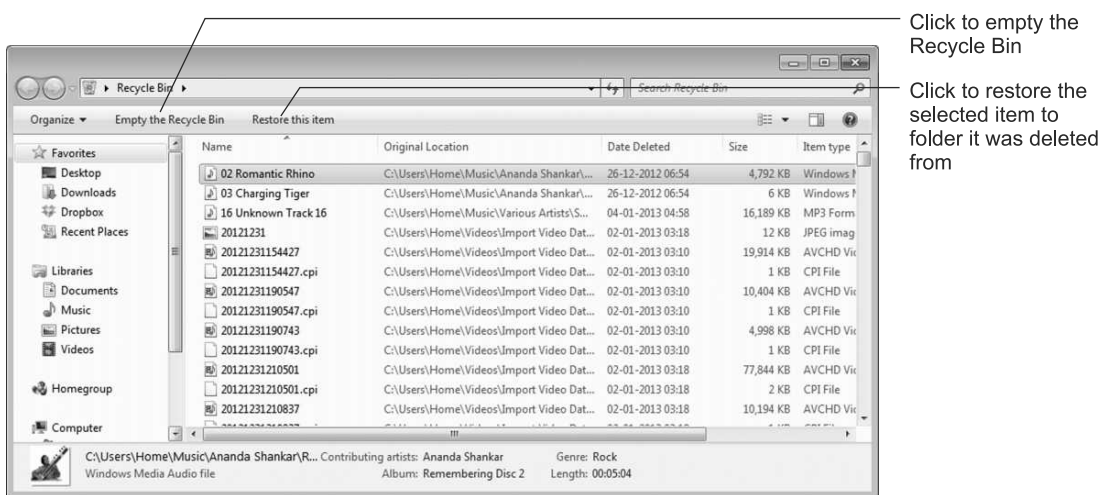


Fig. 2.47 Recycle Bin

- To restore any item available in the Recycle Bin to the original folders it were delete from, select the item and click the **Restore the item** on the Task toolbar. Follow the same procedure to restore multiple items. The Restore command is also available on the context menu that you can get by right clicking the selected item(s).
- On the other hand, if you want to remove an item from Recycle Bin, i.e., permanently delete it from the computer, select that item and choose the **Delete** command from the context menu or Organize menu. To completely empty the Recycle Bin, click **Empty the Recycle Bin** on the toolbar, as illustrated in Fig. 2.47.

The number of items the Recycle Bin can hold is limited by the hard disk space allocated to it by Windows. Therefore, you should periodically empty the Recycle Bin by deleting those items from the Recycle Bin that you no more want to restore.

Tip Typically, Windows allocate 5–10% of the hard disk space for Recycle Bin. To change this percentage, right click the Recycle Bin icon on the desktop and choose the Properties command.

2.17 CREATING FILES/FOLDER ON FLOPPY DISK/USB FLASH DRIVE



You can create files and folders on a floppy disk and USB Flash Drive in the same way as you do on the hard disk. If you get a new floppy disk, you may have to format it before you could store files on it. Formatting a floppy disk has already been discussed in Section 2.13.10. To see contents of a floppy disk or USB Flash drive:

- Insert the floppy in the floppy disk drive or connect the USB Flash Drive to a USB port.
- Open Windows Explorer, expand the Computer icon in the Navigation pane and double click the icon for the Floppy disk drive or USB Flash Drive (e.g., Removable Disk (E:)).

Windows Explorer displays the contents of the selected device in the Details pane. As mentioned earlier, you can create, copy and move files to/from a floppy disk and USB Flash Drive as you do on a hard disk, except that these devices are slower than the hard disk and their storage capacity, particularly for the floppy disk, is limited.

2.18 BURNING FILES TO A CD OR DVD



If the CD/DVD drive in your PC is equipped with writing capabilities, you can use CDs/DVDs to keep backup of your files from your hard disk. The processes of storing files on a CD/DVD is usually called *burning a disk*. Whereas in early 2000s, most computers were equipped with CD-ROM, which could only read CDs, however, most recent computers can burn CDs as well as DVDs. You can store any kind of files, including audio, video and data files on a CD/DVD. Here are the steps to burn files to a CD/DVD:

- Insert a blank writable CD/DVD into the corresponding drive. Windows displays the AutoPlay dialog box shown in Fig. 2.48.



Fig. 2.48 AutoPlay dialog box for a blank writable CD

- The default option (Burn files to disk) is good for burning files using Windows Explorer. Click **Burn files to disc**.

Windows displays Burn a Disc dialog box shown in Fig. 2.49. At the top of the dialog box, there is a text box for entering the title for the disc. Notice that there are two burn options in the dialog box. The

first option (Like a USB flash drive) is the best if you want to use the disk on computers which are not very old (Windows XP and later.) On the other hand, if you plan to use the disk in CD/DVD player, the second option is preferred. Windows supports two writing formats on CD/DVD: *Live File System (UDF)* and *Mastered (ISO)*. Of these two formats, Live File System format is the latest and flexible as you can add and remove files on the disk, as if you are transferring files to a USB Flash drive. On the other hand, you cannot remove files from the disk with the Mastered format. Let us choose the first option that uses Live File System format.



Fig. 2.49 Burn a disk dialog box

- Type a suitable title for the disk in the Disk title box and click the first option (Like a USB flash drive) if required and click **Next**.

Windows starts the format operation on the CD/DVD, which takes a few seconds to complete and displays Windows Explorer. (In some cases, Windows may display an AutoPlay dialog box with two or more options. In that case click **Open folder to view files using Windows Explorer** in the AutoPlay dialog box.) Windows Explorer selects the CD/DVD RW drive in the Navigation pane and displays “Drag files to this folder to add them to the disc”, as shown in Fig. 2.50.

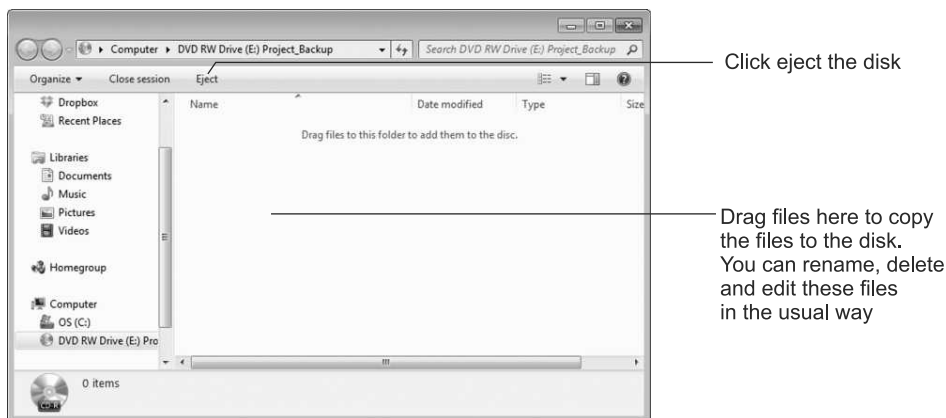


Fig. 2.50 Drag files for burning in a CD/DVD

Now you can drag the files you want to burn in the Content pane. You would find it convenient to drag files from a second Windows Explorer window. (Press **Ctrl+N** to open a new Windows Explorer window.) When you drop files in the Details pane of the CD/DVD, it copies the file to CD/DVD. While copying the files, it also displays the Copying progress box. After the copy process is over, you would see the files in the Details pane.

Tip If you are using the Live File System format, you can rename, delete and edit files on the writeable CD/DVD as if you are working on a USB Flash Drive.

- After you have copied the files, you can eject the disk by clicking **Eject** on the Task toolbar. Windows closes the current session and ejects the disk. Later, if you want to copy more files to the disk, just insert the disk in the drive and copy files in the usual way by drag and drop.

Note If you use the Mastered (ISO) format for creating CD/DVD, you need to complete one final step after you have dragged files to be copied (burnt), which is not required for the Live File System format. To complete the final step, you need to click the **Burn to disk** link on the Task toolbar. Then Windows displays a Wizard that guides you through the process of naming the disk and burning the files on the disk.

2.19 HOW TO PUT COMPUTER AND CONTROL PANEL ICONS ON DESKTOP?



By default, Windows 7 only puts the Recycle Bin icon on the desktop. If you prefer, you can put other system icons, such as Computer, Control Panel, Network and User's Files on desktop. Here are the steps to accomplish this:

- Right click any empty area on the desktop to display a context menu and click **Personalize** on the menu. Windows display the Personalization window.
- Click the **Change desktop icons** link in the Personalization window. Windows displays the Desktop Icons Settings dialog box shown in Fig. 2.51.

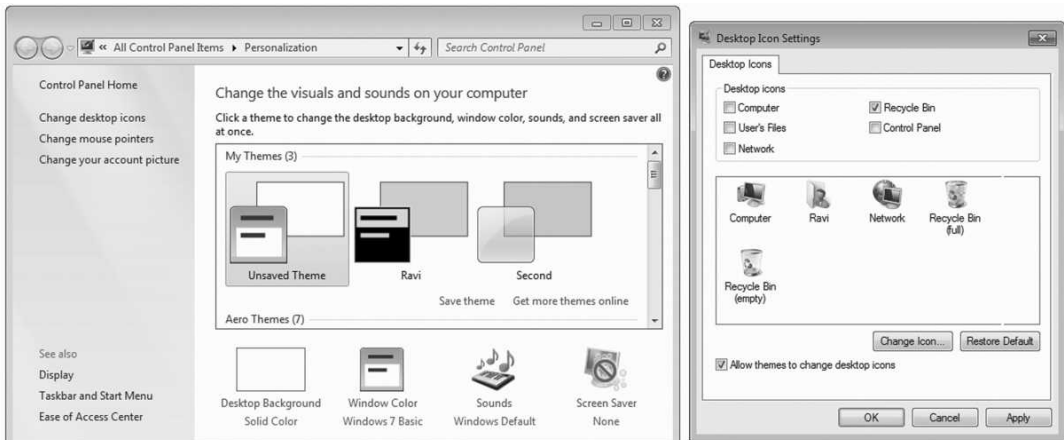


Fig. 2.51 Desktop icons settings

- Check the Desktop icons that you want to display on your desktop in the dialog box. Finally click **OK**.

Now Windows refreshes your desktop with the desktop icons you selected.

2.20 GETTING HELP



The Windows operating system has ballooned from simple MS-DOS that could fit on a single floppy disk to a huge system that requires hundreds of MB of hard disk space to install. The Windows operating system has so many features that it is very difficult for anyone to know and remember all commands, options and features. Therefore, Windows comes with a detailed help system.

- To open the help system, choose the **Help and Support** from the Start menu or click desktop and then press the **F1** key. Figure 2.52 displays the Windows Help and Support window.

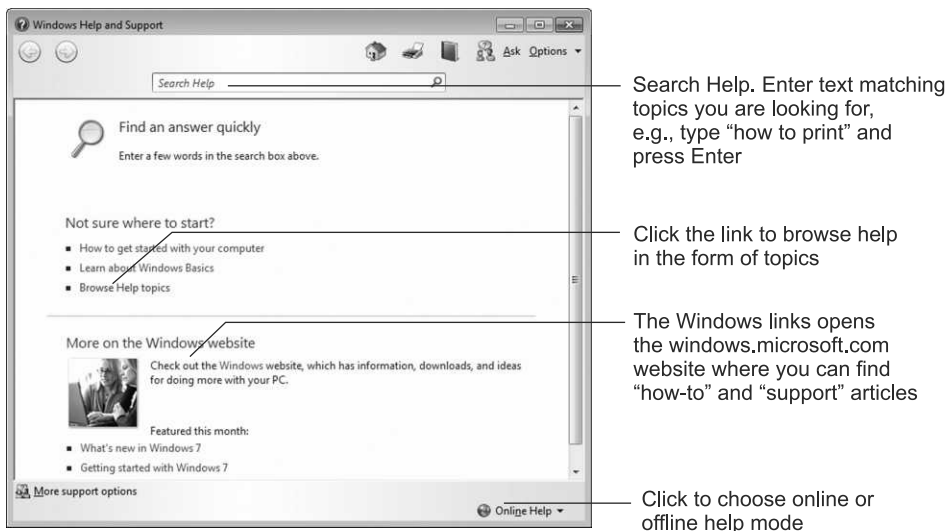


Fig. 2.52 Windows Help and Support system

- You can use the Search box in the Help window to find help topics matching specified keywords. To search for help topics, enter matching keywords, e.g., “how to print” in the search box and press **Enter**, and the Help window displays links to the topics matching the search keywords. Now you can click any link to see the help details.

Windows help has two modes: *Online Help* and *Offline Help*. The Offline help is the help details available on your computer that you can access anytime. In the Online help mode, additional help information is available from Microsoft, however, you should be connected to the Internet.

While using any Windows feature, you can ask Windows to display help information. For example, you are working on the Control Panel, Recycle Bin or Devices and Printers and you want to know more about how to use a feature.

- To get help details about an open Windows window, press **F1**.

Windows displays the relevant topic in a Windows Help and Support window. Now you may explore the help information or click any link displayed in the window to get more details.

2.21 INSTALLING USB DEVICES



Most recent computers have several USB ports. You can connect most devices, such as keyboards, mouse, printers, cameras, scanners, external hard drives, external CD/DVD player/recorders, USB Flash drives, etc., to USB ports. You can connect a USB compatible device to any USB port on your computer. You may sometimes find additional USB ports on USB devices connected to your computer, e.g., keyboard.

Installing a USB device on a computer basically means installing *software driver* on the PC to enable your PC to use the device. When you connect a new device to a USB port, Windows detects it and tries to install the required driver from thousands of drivers for common products already built in Windows 7. Besides, during Windows update, it keeps collecting additional drivers. Therefore, the chances are very high when you connect a device to a USB port, Windows is going to install a suitable driver for you. On detecting a new device, Windows displays a few messages, such as “New device detected”, “Installing device driver software” and “Your device is ready to use” in balloons in the notification area. After Windows display the “ready to use” message, you can start using the device. If Windows cannot find the driver for the device, you may install the drivers from the CD provided with the device, if any, or search and download the driver from the manufacturer’s website.

2.22 CHANGE OR UNINSTALL A PROGRAM

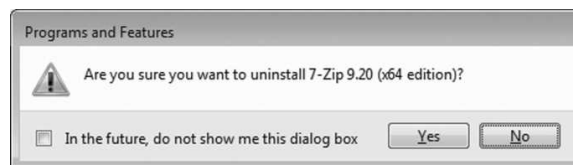


If you do not need a program anymore, you can uninstall (remove) it. This will reclaim the disk space occupied by the program, and in some cases may also improve the performance of the computer. However, you cannot delete the folder containing the program to remove it, instead you must use the Control Panel to uninstall (remove) it. The control panel can also be used to *change* or *repair* the installed programs. Follow these steps to uninstall or change an installed program:

- Open the Start menu and click **Control Panel** to open the Control Panel window.
- Click **Programs and Feature** (or Programs, Programs and Features) in the Control Panel window. Windows displays the list of installed program in the Control Panel window.
- Click the program that you want to uninstall, change or repair.

Figure 2.53 displays the 7-Zip program selected. Notice that it displays details about the selected program in the Details pane at the bottom of the window. Also notice the Uninstall, Change and Repair links on the Task toolbar, which are used to uninstall (remove), change and repair the selected program, respectively.

- Click the **Uninstall** link on the Task toolbar to uninstall the selected program. Windows displays a confirmation dialog box similar to the following.



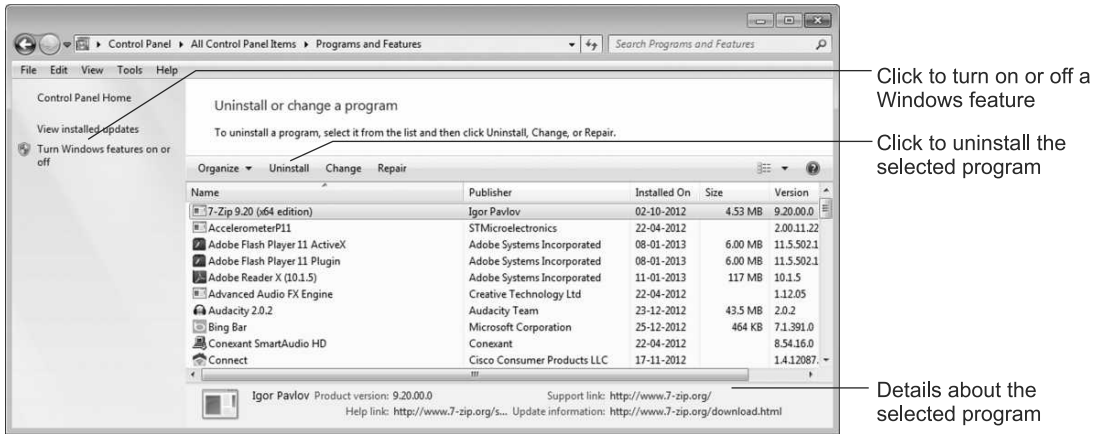


Fig. 2.53 Remove or Change a program in Control Panel

- Click **Yes** to ask Windows to uninstall the program or **No** to cancel the uninstall process.

The Programs and Features window of Control Panel can also be used to turn on or off Windows features through the *Turn Windows Features on or off* link, as illustrated in Fig. 2.53. On clicking this link, Windows displays the Windows Features dialog box where you can check or uncheck the corresponding features. Finally, click the OK button to ask Windows to implement your selection.

2.23 DOWNLOADING AND INSTALLING PROGRAMS



Nowadays, several freeware, shareware, open-source as well as commercial programs are available for download from the Internet. The process of downloading programs from the Internet and installing on your PC, through not standard, is usually not complicated. The following are the typical steps to download and install a program.

1. Visit the website and navigate to the webpage that allows downloading the program file.
2. Determine the file that you want to download. Usually, there are multiple files available for different types of operating systems. For PCs running Windows, choose the file suitable for the Windows version you are using.
3. The downloaded file gets saved automatically in the default download folder. (More about downloading files is discussed in Section 8.29.)
4. The downloaded file may have different extension names, such as ZIP, EXE or MSI. If the file extension name is EXE or MSI, open or run the file to initiate the installation process. On the other hand, a ZIP (compressed) file has to be first unzipped. Most zipped files automatically unzip on double clicking the file name. However, if the file does not unzip automatically, use the unzip program to manually unzip it. After the file has been unzipped, it will reveal a setup file (usually called setup.exe or setup.msi) that you can run to install the program.

Note When you try to install a program on your computer, usually Windows displays some details about the program and asks if you want the program to make changes to the computer. You should click Yes only if want to continue with the installation process.



2.24 INSTALLING PRINTERS

To use a printer on a Windows PC, you need to install it. Installation of printer basically implies installing the printer driver, a software component that Windows uses to print on a specific printer. Different printers internally work in different ways; therefore, you need a separate printer driver for each printer you want to use with your PC. Besides installing printer drivers for a specific printer, sometimes we also install generic printer drivers for special tasks, such as to send a fax or to create a PDF (Portable Document Format) file from a document file. Once a printer driver has been installed, that printer driver (or printer) is available for use with all programs installed on the PC.

- To see the list of printer drivers installed on your PC, open the Start menu and click **Devices and Printers**.

Figure 2.54 displays the Device and Printers window. Notice that one of the printer has a tick mark (✓) attached to its name, which indicates that this is the default printer.



Fig. 2.54 *Devices and Printers window displaying devices and printers installed in a computer*

- To change the default printer, right click the desired printer icon to display a context menu and click **Set as default printer** in the menu. You may use other commands in the menu to change printing preference and properties, or share it with other PCs, if your PC is connected to a LAN (Local Area Network).
- To install a USB printer, just connect it to a USB port and Windows will do the rest. Refer to Section 2.21 for details.

Non USB printers, usually come with installation instructions and an installation CD that contains the printer driver for the printer. On following the installation instructions, the required printer driver gets installed on the PC. If you do not have the installation CD, you may download the printer driver from the printer manufacturer's website and install it. Windows includes drivers for most common printers and will let you choose a driver from its database during the installation process. To install a non-USB printer:

- Connect the printer to the PC, open the Devices and Printers window and click **Add a printer** on the task toolbar, as illustrated in Fig. 2.54. Windows displays the Add Printer wizard shown in Fig. 2.55.

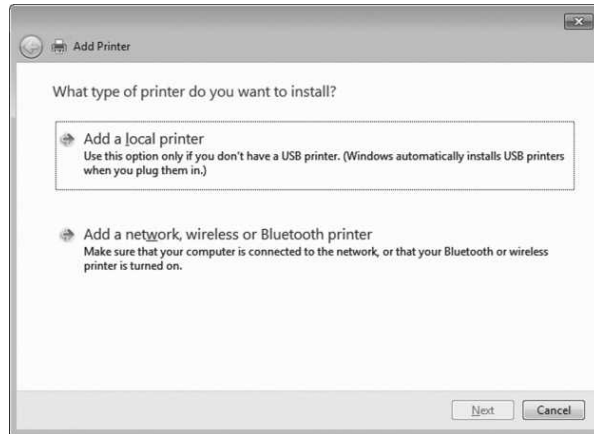


Fig. 2.55 Add Printer Wizard

- Depending on the type of printer you want to install, click **Add a local printer** or **Add a network, wireless or Bluetooth printer**.
- On choosing the local printer option, the next step of the Add Printer Wizard asks you to choose the port where the printer is connected to. The default port is LPT1 (Printer Parallel Port 1). Change the port, if required and click **Next**.

Now, the wizard displays the next step shown in Fig. 2.56, where it displays the list of printer manufacturers and models whose drivers are available with Windows.

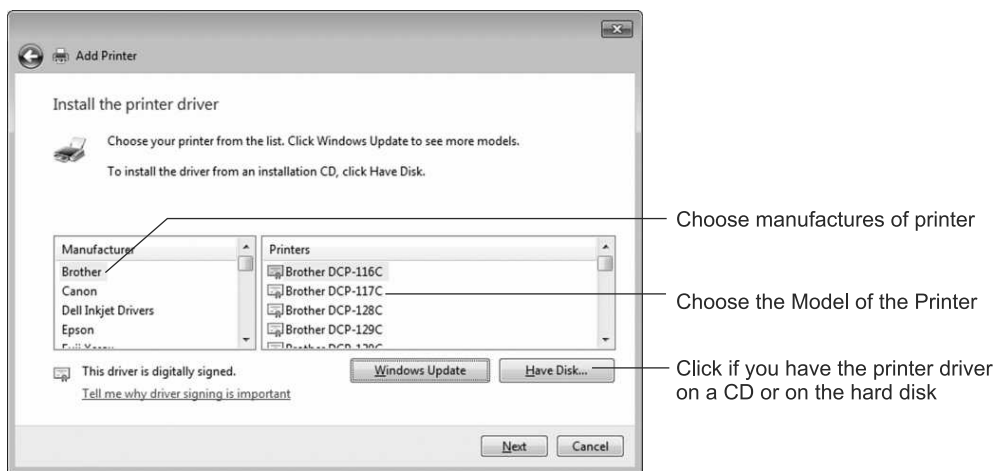


Fig. 2.56 Selecting Printer manufacturer and model

- Now you need to choose the manufacture of your printer in the left list box. On choosing a manufacturer, the Wizard window displays the list of available printers in the right list box. Now choose the printer model name in right box. If you cannot find your model in the list, you may choose a similar model name. Then click the **Next** button.

Windows displays the next step of the wizard shown in Fig. 2.57. Windows displays a default name for the Printer you are adding. You may keep the default name or define a new name.

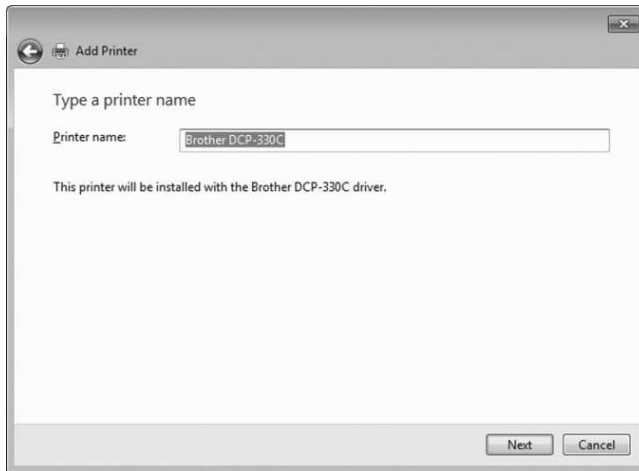


Fig. 2.57 *Assigning a name to the Printer*

- Type the new name for the printer, if required and click **Next**.
- Windows installs the driver on your computer and asks if you want to share the printer. If you want to share the printer, define suitable share name for the printer. Then click **Next** to display the next step of the Wizard.
- Now you have almost reached the end of the installation process. This step enables you to print a test page to ensure that the printer is working properly. In this step, you may also choose if you want the newly installed printer to be the default printer. Finally, click the **Finish** button to close the Add Printer Wizard dialog box.

Windows displays the newly installed printer in the Devices and Printers window.

2.25 WINDOWS UPDATES



Microsoft regularly releases updates for the Windows operating system and related software. Some of these updates are critical for the safe operation of your PC, and Microsoft recommends that important updates should be installed on your PC at the earliest. Windows can automatically check the Windows Update Web site at the specified time of every day (or on a specific day) to automatically download or download and install important updates. You can view the Windows updates settings for your computer in the Windows Update section of Control Panel.

- Open the Start menu and click **Control Panel** to open the Control Panel window.

- Click **Windows Update** in the Control Panel window. If you cannot find Windows Update in the Control Panel window, type **Windows Update** in the search box in the top right corner of the window and Windows will find and display the Windows Update link for you.

Windows displays the Windows Update details, including the date and time of the most recent check for updates and the date and time the last update was installed, as shown in Fig. 2.58.



Fig. 2.58 Windows Update

The links displayed in the left side of the windows are used to check for updates, change update settings, view update history, etc. Let us have a look at the Windows Update settings.

- Click the **Change Settings** link in the Windows Update window and a new windows appears as shown in Fig. 2.59.

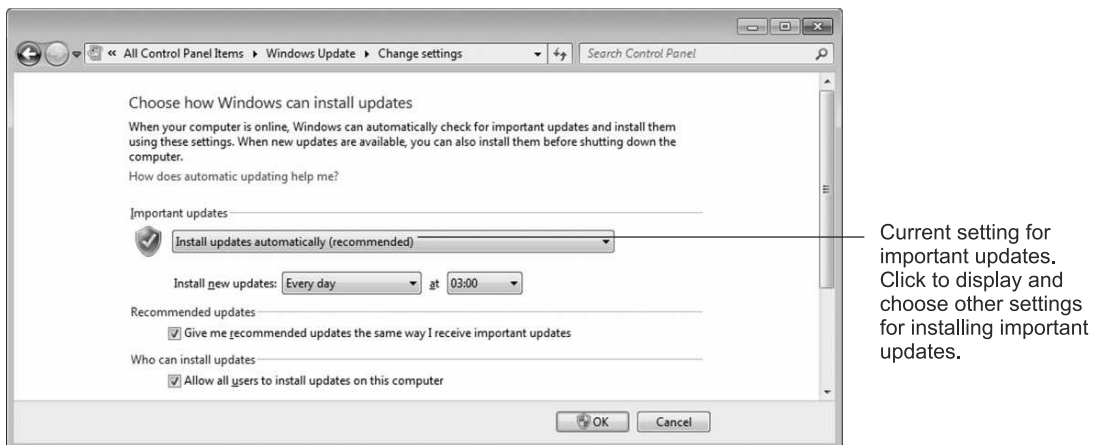


Fig. 2.59 Choosing how Windows can install updates

The default and recommended setting for installing important updates is *install important updates automatically*, as illustrated in Fig. 2.59. The other update options, which you can choose by clicking the current setting button, are:

1. Download updates but let me choose whether to install them.
2. Check for updates but let me choose whether to download and install them.
3. Never check for updates (not recommended).

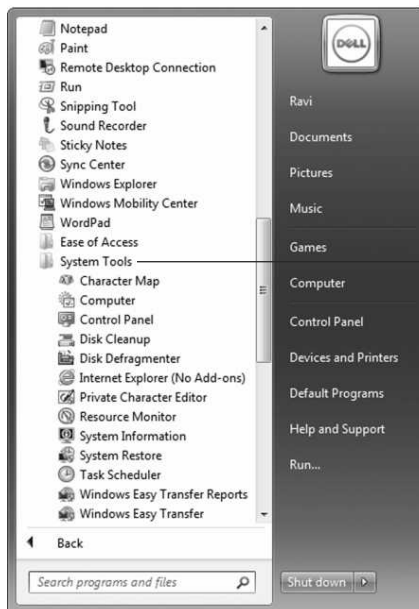
Using any setting other than “Install updates automatically” is not recommended for the safety of your computer.

2.26 USING SYSTEM TOOLS



Windows comes equipped with several system tools that help to maintain the system or improve its performance. The system tools bundled in Windows 7 include, Character Map, Computer, Control Panel, Disk Cleanup, Disk Defragmenter, Resource Monitor, System Information and System Restore. These tools are available under the System Tools submenu under the All Programs, Accessories. To view available system tools or to run any system tool:

- Open the Start menu and click **All Programs**. Windows displays the All Programs menu.
- Click **Accessories** in the All Program menu to display the Accessories submenu.
- Click **System Tools** in the Accessories submenu and Windows displays the available system tools as shown in Fig. 2.60.



Open Start menu, click All Program, Accessories, System tools to display available system tools.

Fig. 2.60 System tools

We have already discussed Control panel. Other important system tools are discussed in this section. To run a system tool, click the corresponding tool in the System Tools submenu.

2.26.1 System Information

System Information provides general information about the computer system, such as Windows edition installed on your computer, CPU details, installed and available memory and system type (32 or 64 bit), etc. Figure 2.61 displays the System information details. To get the system details for your computer:

- Open the **System Tools** submenu from the **Accessories** submenu, as already discussed in the beginning of this section and click **System Information**.

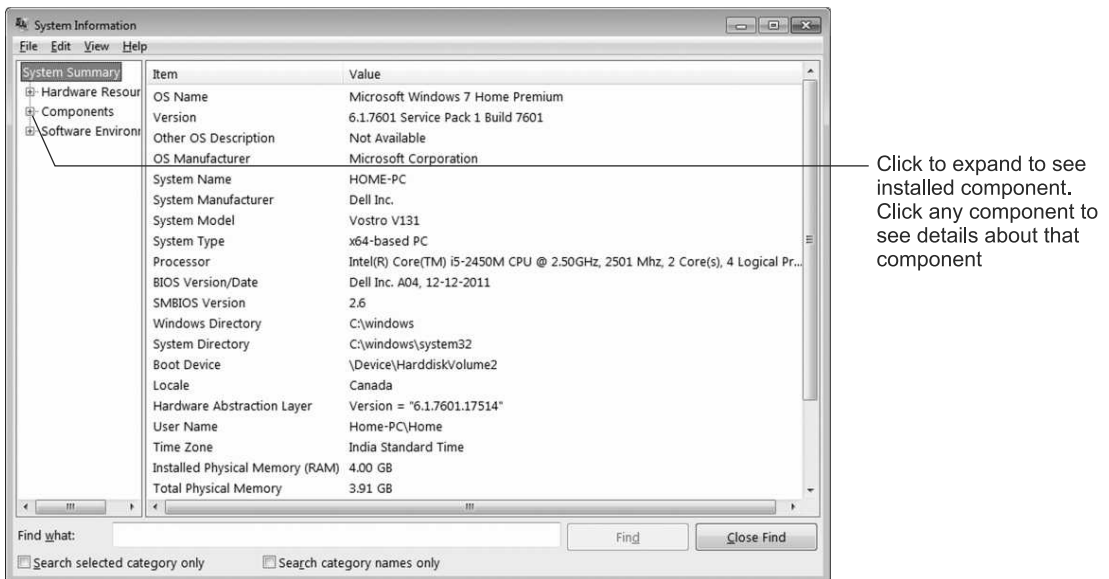


Fig. 2.61 System Information

- Windows displays summary information about the computer system. To get more details, expand a category in the left pane and click the corresponding item, as illustrated in Fig. 2.61.

2.26.2 Disk Cleanup

The Disk Cleanup tool can help you cleanup your hard disk by deleting downloaded program files, temporary internet files, other temporary files, emptying the Recycle Bin and compressing old files. This results in reclaimed hard disk space and improved performance. Figure 2.62 displays a Disk Cleanup window.

- Check (✓) the type of files you want to delete. As you check or uncheck files categories, Windows displays the amount of space you would gain after disk clean-up.
- Click the **OK** button to proceed with Disk Cleanup process.

You should periodically clean-up the disk to improve the performance of your PC.

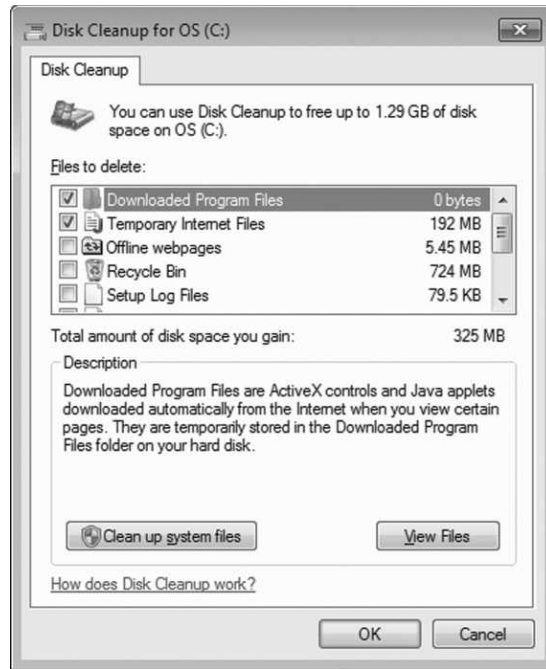


Fig. 2.62 Disk Cleanup

2.26.3 Disk Defragmenter

The files on the hard disk are not stored in a linear way. Instead, each file is divided into small units, and each unit is stored in a unit space called *cluster* on the hard disk. This is done to optimize the read-write performance on the hard disk. Depending on the size, a file may be stored in 1, 10, 100 or even thousands of clusters. Thus, while storing a file on the hard disk, the file system of the operating system may store it in clusters which may be physically located in different parts of the hard disk, depending on where the empty clusters are available. After repeated deletion and creation of new files, usually files get so fragmented that hard disk read-write performance starts deteriorating as the hard disk head has to travel to clusters located in so many different areas of the disk to read or write a file. To improve performance, it is recommended to periodically run the Disk Defragmenter tool, which rewrites the files on the hard disk for optimised performance.

- Open the Disk Defragmenter program from the **Accessories, System Tools** menu. You may also open this program by typing “Disk Defragmenter” in the search box of the Start menu and then clicking **Disk Defragmenter** in the search results under the Programs category. Windows displays a window similar to Fig. 2.63.
- Select the disk you want to defragment, e.g., “OS (C:)” and click the **Analyze disk** button. Windows analyzes the disk and updates the percentage value of the fragmented disk.
- If your disk is more than 10% fragmented, you should defragment the disk by clicking the **Defragment disk** button.

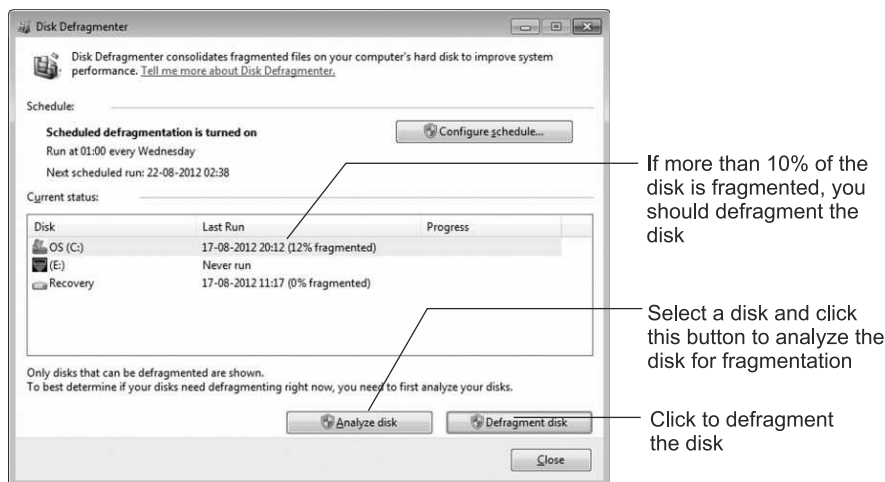


Fig. 2.63 Disk Defragmenter

Windows starts the defragmentation process which takes significant time as the fragmented files are rewritten. It displays the defragmentation progress under the Progress column in the window. When the process is complete, you should see “0% fragmented” (or a number close to 0%) in the Disk Defragmenter window.

- Click the **Close** button to close the Disk Defragmenter window.

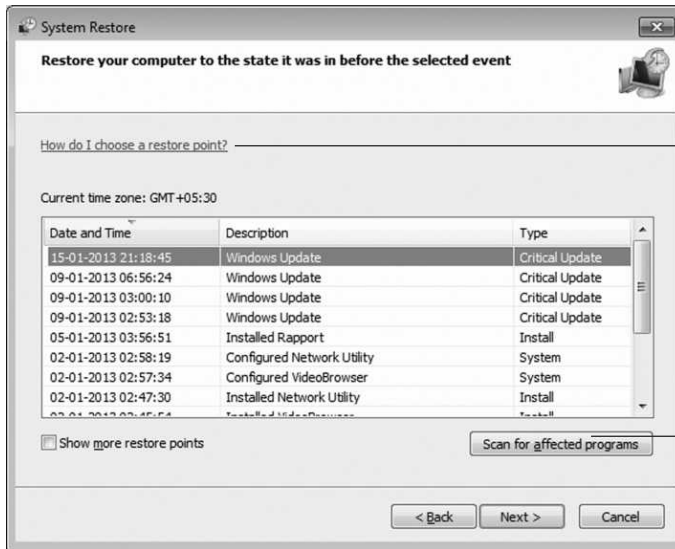
2.26.4 System Restore

System Restore is a very useful tool that can help you to rollback your system to a previous state, if you notice a problem after installing new software or upgrading existing software. In other words, you can undo the installation of a program, driver or Windows update. Windows automatically maintains *restore points* on regular intervals and when it installs important software. When you notice unexpected change in the behavior of the computer after installation of a driver or program, usually uninstalling that program or driver fixes the problem. However, if that does not fix the problem, you can restore the computer system to an earlier date when everything worked fine. When Windows restores the system, your data files, e.g., documents, spreadsheets, downloaded files, e-mails, etc., are not affected.

- To use System Restore, open **System Restore** from the **Accessories, System Tools** menu or search for it from the Start menu.
- Windows displays the System Restore window that briefly explains the System Restore process. Click **Next** and a System Restore window appears with the list of restore points, as shown in Fig. 2.64.

The System Restore window displays various restore points (date and time) and some brief description about each restore point.

- Click the restore point you want to apply. You may click the **Scan for affected program** to find the program that will be affected by the system restore. Then click **Next** to proceed to the next step.



Click to learn more about restore point

Select a restore point and click the button to know the programs that will be affected by the system restore to this date

Fig. 2.64 System Restore

- Click **Finish** to proceed with system restore. Windows displays a confirmation box. On clicking **Yes** in the box, Windows starts the system restore process.

After the system restore is complete, Windows automatically restarts the computer. If things do not work as expected, you can undo the system restore and try an earlier restore point.

2.27 USER ACCOUNTS



Windows allows sharing a computer by allowing multiple user accounts. Each user is assigned a user name and password (optional) which are used to allow logging to the system. Each user maintains its own desktop settings, documents, start menu settings, list of favorite websites (bookmarks), control panel settings, etc. New users can be created only by a user who has *Administrative rights*. However, when a user is created, it may be assigned Administrative or Standard rights. The User Accounts section of Control panel is used to manage existing user accounts or create new user accounts.

- Open the Control Panel window from the Start menu and then click **User Accounts**. Window displays the User Accounts window for the current user, as shown in Fig. 2.65.

The User Accounts window displays the user name, picture and type (administrator or standard) in the upper right section of the window.

- To change the user profile, e.g., password, picture, account name, account type, etc., click the corresponding link and follow the instructions.
- If you want to view all users or want to change the profile of another user account, click **Manage another account** link, as illustrated in Fig. 2.65.

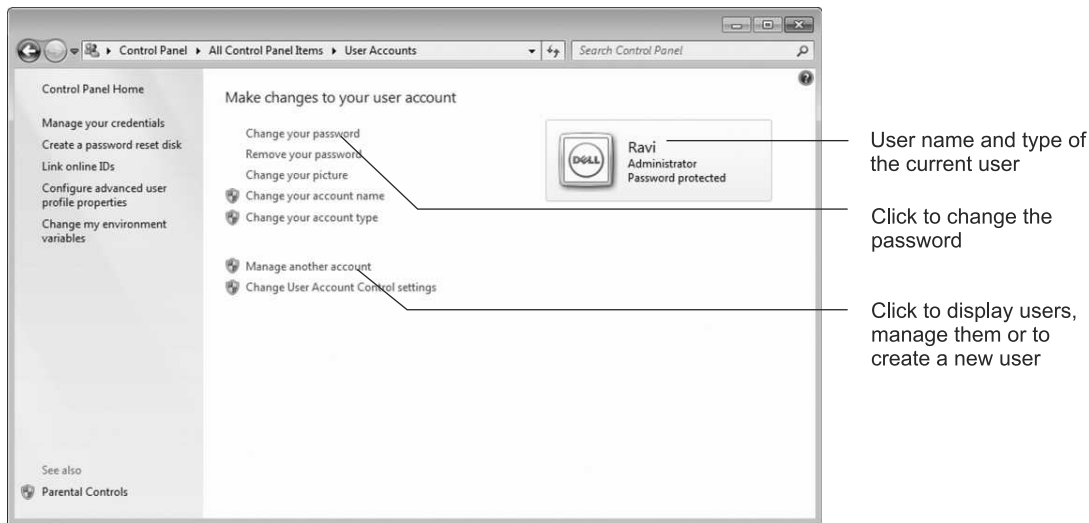


Fig. 2.65 *The User Accounts window*

Windows displays the Manage Accounts window, which contains icons all users on the computer, as shown in Fig. 2.66. You can click any user icon to manage that account, as illustrated in the figure.

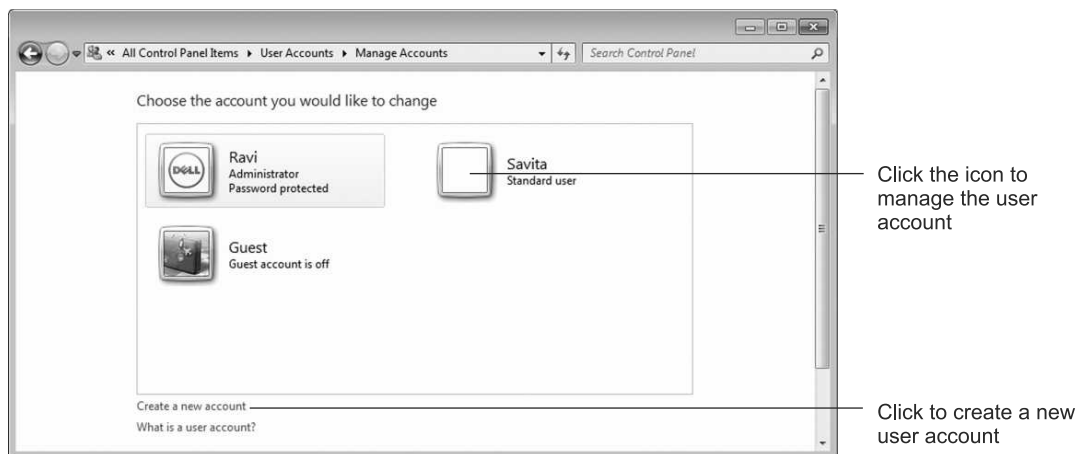


Fig. 2.66 *The Manage Accounts window*

2.27.1 Creating a New Account

- To create a new account, click the **Create a new account** link in the Manage Accounts window.

Windows prompts you to provide a name for new account you want to create, as shown in Fig. 2.67.



Fig. 2.67 Naming a new account

- Type the account name in the New Account name box. Windows can create two types of users: *Standard user* and *Administrator*. As described in the Create New Account window, Administrator users have complete access to the computer. By default, Windows create a standard user. Change the user type, if required and click **Create Account**.

Windows creates the user and displays the new user in the Manage Accounts window. Now you can click the newly created user and change its profile, e.g., change the picture, password, account name, etc.

2.28 USING NOTEPAD



Notepad is a simple and easy to use text editor. Notepad does not support any text or paragraph formatting, i.e., it opens and saves text in the ASCII (American Standard Code for Information Interchange) mode. You can use it to type a simple memo or short note. Notepad can also be used to type programs for programming languages or applications, e.g., BASIC, dBASE, FoxPro, HTML, etc.

Note To create or edit files that require formatting, use WordPad or some word processor, such as Microsoft Word.

- To start Notepad, click the **Start** button to open the Start menu and then choose **All Programs**, **Accessories**, **Notepad**. Alternatively, open the Start menu, type **Notepad** in the Menu's search box and click **Notepad** in the search results.

Windows opens the Notepad windows shown in Fig. 2.68. When Notepad starts, it creates a file and names it—Untitled. So you may start typing text in this file. Notepad will ask for the filename when you save it.

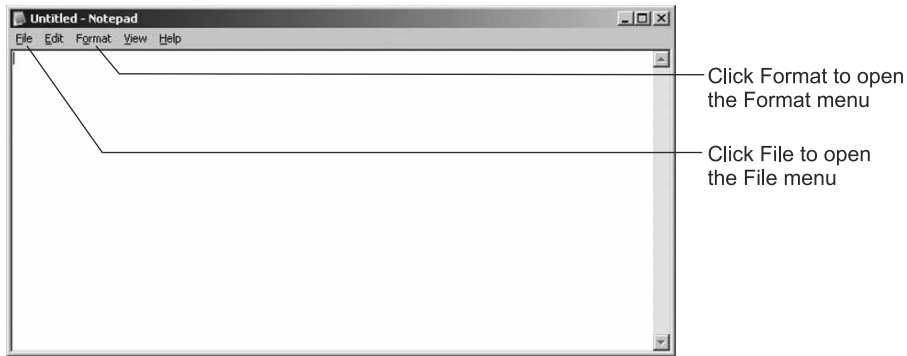


Fig. 2.68 Notepad window

- When you type text, the cursor may automatically move to the next line when the current line gets filled up depending on the setting of *word wrap*. To change the *word wrap* setting, click **Format** to open the Format menu (see Fig. 2.68.) and then click **Word Wrap**.
- The Edit menu supports the Cut, Copy, Paste and Select All commands to copy and move text in the file. The Edit menu also supports the Time/Date command to enter the current time and date in the file at the cursor position.
- To save the file, click **File** to open the menu and then click **Save** in the menu. Alternatively, press **Ctrl+S** to save the file.

If you are saving the file for the first time, it displays the Save As dialog where you define the filename and choose a folder (location) to save the file. The use of Save As dialog box, which is same in all Windows applications, is described in the next section.

- To open an existing file, use the **Open** command from Notepad's **File** menu or press **Ctrl+O**.

2.29 USING WORDPAD



WordPad is a small word processor. We are calling it small, as it does not have the advanced features of the full-fledged word processors. For instance, you will not find features such as spell-check, grammar-check, hyphenation, AutoCorrect, etc., in WordPad. However, it contains the necessary commands to format text, paragraphs and page. It is a true WYSIWYG (What You See is What You Get) word processor. That is, what you see on the screen is nearly what you get on printing the document. You can also insert graphics in WordPad documents. You can use WordPad to create professional-looking letters and documents. WordPad uses the Windows interface, therefore, after learning How to Use WordPad, you will be able to apply the same techniques on other programs, such as Paint, Word and Excel. The WordPad program is located in the Accessories submenu.

- To start WordPad, click the **Start** button to open the Start menu and then choose **All Programs, Accessories, WordPad**. Alternatively, open the Start menu, type WordPad in the menu search box and click **WordPad** in the search results. Figure 2.69 displays a WordPad window.

Like a typical window, the WordPad window displays the title of the program in the title bar. WordPad has automatically created a new document with the name 'Document'. So, you can straightaway start typing. Later, when you save the document, you assign a name of your choice to it. On the left side of

the title bar is a customizable *Quick Access* toolbar, which contains frequently used commands, such as Save, Undo and Redo.

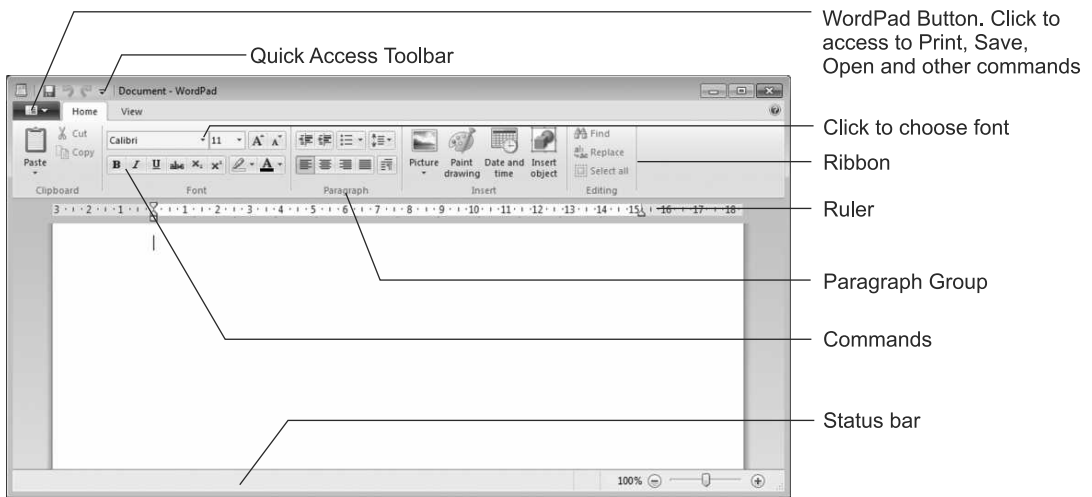


Fig. 2.69 WordPad window

If you are new to Windows 7, you won't find typical menus in most Windows programs; instead these programs use the *Ribbon* interface. The Ribbon, located under the title bar provides quick access to all formatting commands on the default Home tab. These commands are placed under various *groups*, such as Clipboard, Font, Paragraph, Insert and Editing. Normally, you will be able to determine the task WordPad will perform on clicking a button or icon by just looking at the graphics. However, if you are not sure, move the mouse pointer on the corresponding button or icon and wait for a second, and it displays a *tooltip* containing some description.

The empty area below the Ribbon is called the *Document* pane where you type your document or WordPad displays an existing document. The last line of the WordPad window, called the *status bar* contains a *Zoom Slider* which is used to change the zoom setting of the document.

Note The Ribbon interface will be discussed in detail in Chapter 3.

2.29.1 Typing a Document in WordPad

Consider the sample letter shown in Fig. 2.70. In the sample letter, the address is centred and the date is right aligned on the page. You may format paragraphs as you type the letter or initially type the letter without caring for paragraph formatting and then format paragraphs. While typing text, remember the following points:

1. While typing text in a paragraph, when you reach near the end of the line, do not press the Enter key, as you would have done on a manual typewriter. Just continue typing and WordPad automatically moves the last word of the line to the next line if it goes past the right margin. Press the Enter key only when the paragraph ends.
2. When you want to end a line, press the Enter key. For example, in Fig. 2.70, you will press Enter after typing each address line and date. Similarly, press the Enter key to type a blank line.

Let us begin typing.

- Type **DOEACC Society**, the first line of the address. Do not press the **Enter** key. WordPad displays 'DOEACC Society' in the document area. This line is left aligned, the default for all paragraphs in WordPad.

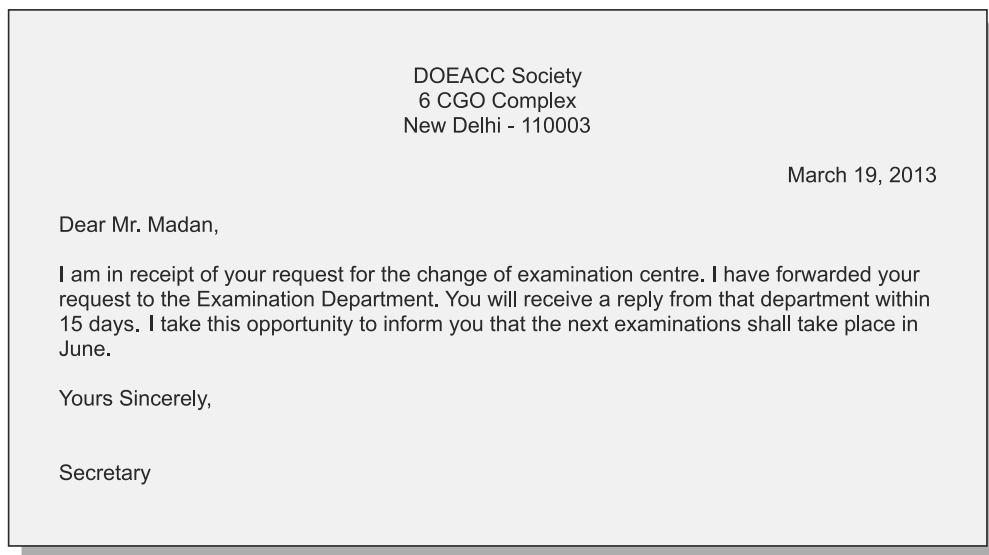



Fig. 2.70 A sample letter

- To center the paragraph, click the **Center** button in the Paragraph group on the Ribbon. Then press the **Enter** key.
- Type **6 CGO Complex** and press **Enter** to move the cursor to the next line. Then type **New Delhi - 110003** and press **Enter**. Press **Enter** once more to leave another blank line.
- Since the date is right aligned, click the **Align Text Right** button in the Paragraph group on the Ribbon, type **March 19, 2013** and press **Enter**.
- Refer to the sample letter shown in Fig. 2.70 and type the rest of the letter. Just remember not to press **Enter** at the end of each line in the paragraph. That is, while typing the body of the letter, you will press Enter only after '...shall take place in June.'

2.29.2 Saving the Document in a File

So far, the letter that you have typed is sitting in the temporary memory of your PC. To permanently store the letter, you need to save it in a disk file.

- Click , the Save button on the Quick Access toolbar located at the top left corner of the WordPad window. You can also accomplish the file save operation by pressing **Ctrl+S**, the shortcut keys for the Save command.

WordPad displays the Save As dialog box shown in Fig. 2.71, where you enter the name of the file that you want to assign to the document. Besides the filename, which you type in the *File name* box (see Fig. 2.71), you can also select the drive and the folder where you want to store this file. In Fig. 2.71, the

current folder is 'Documents Library, so, if you do not change the folder, the file will be saved in this folder. If you want to save the file in some other folder, perform the following steps:

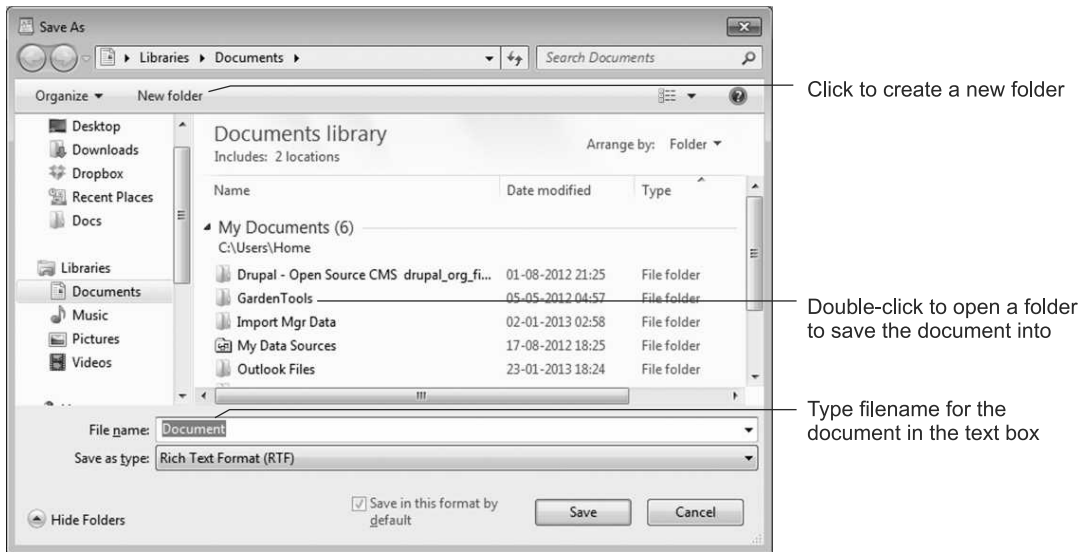


Fig. 2.71 Save As dialog box

- To select a folder that visible in the Save As dialog box, double click it. For instance, to save the document in the GardenTools folder, double click **GardenTools** to open this folder.
- To save the document in a new folder, click the **New Folder** button on the Task toolbar.
- To select a different major area, e.g., Desktop instead of Documents Library, click it in the Navigation pane. Then double click to open a folder that may exist in the selected area.
- After you have selected the folder to save the document into, type a suitable filename. Finally, click the **Save** button to save the file.

2.29.3 Editing a WordPad Document

After typing a document in WordPad, if you notice any mistake or want to change or add text in any part of the document, you can edit your document. To edit, you need to move the cursor to the position where you want to carry out editing. You can move the cursor by using the mouse or the keyboard.

- To move the cursor with the mouse, move the mouse pointer where you want to place the cursor and click the mouse button.
- To move the cursor with the keyboard, use the cursor movement keys. On the right-hand side of the keyboard, you find four arrow keys. You can use these keys to move the cursor in the direction of the arrow keys. For instance, you can use the left arrow (←) key to move the cursor to the previous character position, the right arrow (→) key to move the cursor to the next character position. Similarly, you can use the up arrow (↑) and down arrow (↓) keys to move the cursor up and down by one line, respectively.
- If you need to delete a character, use either **Del** or the **Backspace** key. Notice that the cursor is always placed between two characters. The Del key deletes the character to the right of the cursor position whereas the Backspace key deletes the character to the left of the cursor position.

- If you want to delete a word or a sentence, select it and then press the **Del** key to delete the selected text. Double clicking the mouse on a word selects that word and triple clicking selects the paragraph. Alternatively, click and drag the mouse to select any length of text. After you have selected the text that you want to delete, all you need to do is to press the Del key.
- If you delete any text by mistake, you can undelete (restore) the text by pressing **Ctrl+Z** or by clicking the Undo button on the Quick Access toolbar.

2.29.4 Formatting Paragraphs

You can control the appearance of your document by formatting paragraphs. For example, you can change the alignment of paragraphs to centred or right aligned. You can also change the *font*, size and style (bold, italic, underline, etc.) of any text in the document. The character formatting commands are available in the Font group and the paragraph formatting commands are available in the Paragraph group.

- To format a paragraph, click anywhere in that paragraph and click the corresponding control in the Paragraph group. For instance, click **Justify** to justify the paragraph or **Center** to create a centred paragraph.
- You can also change the formatting of paragraph through the Paragraph dialog box. To open the paragraph dialog box, click the **Paragraph** button in the Paragraph group or right-click the paragraph to display a context menu and click the **Paragraph** in the menu.

2.29.5 Formatting Text

You can give a professional look to the documents created in WordPad by formatting the text in several ways. For example, you can change the size of the text. You can also use different styles, such as bold, italic, underlined, etc., on the selected text. You can also change the *font* of the selected text. For example, you may format the address of the DOEACC Society in the following way:

DOEACC Society
6 CGO Complex
New Delhi - 110003

Here, 'DOEACC Society' is shown in Arial font in 12 point, bold and italic style. The last line of the address is underlined.

- To format the text, select the text and click the corresponding control in the Font group. For instance, click the **Bold** button to format the selected text in bold letter. Similarly, click the **Italic** to show the text in the italic style.
- If you want apply a different font to the selected text, click the down pointing arrow on the right of the **Font Family** dropdown box (see Fig. 2.69) and click the desired font. Similarly, you can change the font size through the Font Size control located next to the Font Family control.
- After making changes, you may resave the modified document by press the **Save** button on the Quick Access toolbar.

2.29.6 Printing a Document

- To print the current document, press **Ctrl+P**. You can also access the print command by clicking the **WordPad** button (see Fig. 2.69). WordPad displays the Print dialog box shown in Fig. 2.72.

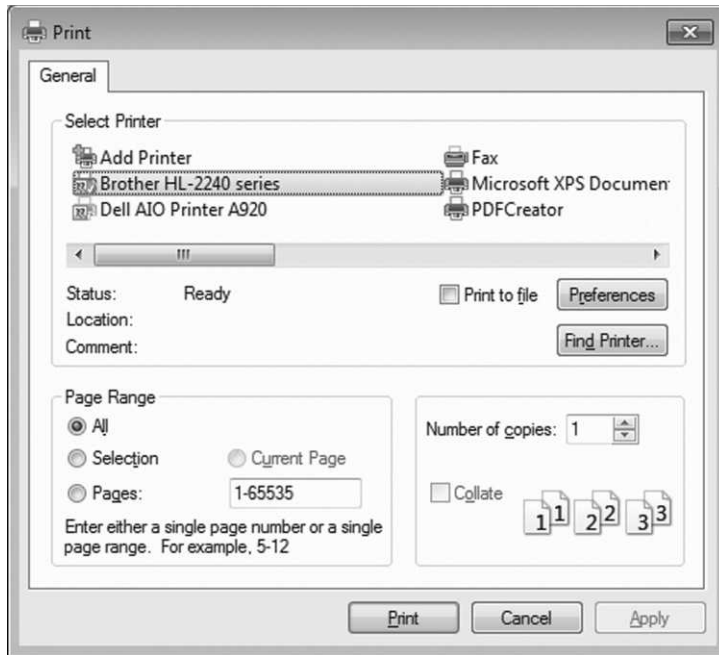


Fig. 2.72 *Print Dialog box*

The default options in this dialog box are suitable to print one copy of all pages of the document on the current printer. You can use the top part of the Print dialog box to select a different printer. The Page Range box, which is used to specify the range of pages to print, has three options:

- All** This option prints all pages of the document.
- Pages** When your document contains several pages and you want to print a particular range of pages, e.g. from page 3 to 7, use this option. To specify the page range, click **Pages** in the Page Range box and type the required starting and ending page numbers, e.g., 3-7.
- Current Page** Prints the current page where the cursor is positioned.
- Selection** Use this option when you want to print some selected text, e.g., a particular paragraph. To use this option, select the text that you want to print prior to using the Print command.

- After you have selected the Page Range and printer, press **Enter** or click the **Print** button to start printing.

2.29.7 Opening a Document

- To open an existing file, click the **WordPad** button (see Fig. 2.69) and click **Open** or press **Ctrl+O**. WordPad displays the Open dialog box.
- Double click the file you want to open, or click to select the file and press **Enter** or click the **Open** button in the Open dialog box.

WordPad opens the document in the WordPad window.



2.30 USING CALCULATOR

Windows contains an on-screen calculator that you may use for doing calculations while working with Windows. Like Notepad and WordPad, the calculator program is available in the Accessories submenu.

- To open Calculator, click the **Start** button to open the Start menu and then choose **All Programs, Accessories, Calculator**. Alternatively, open the Start menu, type **Calculator** in the menu search box and click **Calculator** in the search results.

The calculator can operate in four modes—Standard, Scientific, Programmer and Statistics. Figure 2.73 displays calculators operating in Standard and Scientific modes.

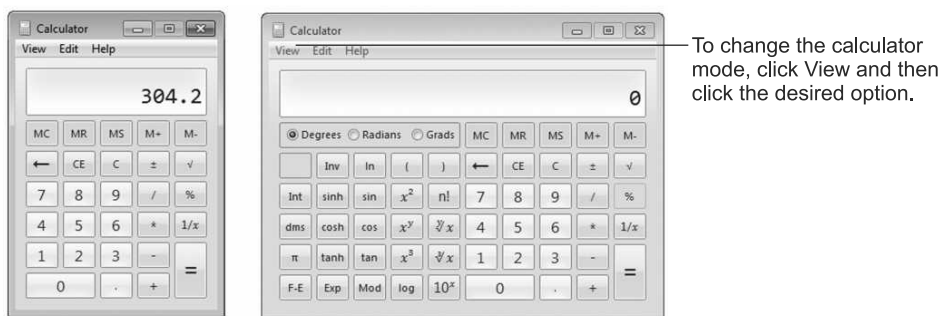


Fig. 2.73 Standard and Scientific Calculators

- To change the calculator mode, click **View** to display a menu and then click the desired option.
- To enter numbers and some of the symbols, such as *, /, +, -, =, %, etc., use the keyboard or click the corresponding button on the calculator. For other operations, click the corresponding button.
- If you want to use the result of the calculation in any document, press **Ctrl+C** to copy the result in Windows Clipboard. Later you can press **Ctrl+V** or use the Paste command in any document to paste the result from Clipboard.

2.31 USING PAINT



Paint is a useful program included in Windows. You can create your own graphics (simple line drawing) using Paint's drawing tools. It is also possible to import readymade graphics files from other compatible programs into Paint. Then you can modify the imported graphics by using Paint's drawing tools. The graphics you create in Paint can be printed or you can copy it to Clipboard so that you may paste it in any Windows application. Paint is available in the Accessories menu.

- To open the Paint program, click the **Start** button and then choose **All Programs, Accessories, Paint**. Alternatively, open the Start menu, type **Paint** in the menu search box and click **Paint** in the search results to open Paint.

Figure 2.74 displays a Paint window. Like WordPad, Paint also uses the Ribbon interface, so you find all paint tools available on the Home tab in the Tools and Shapes groups.

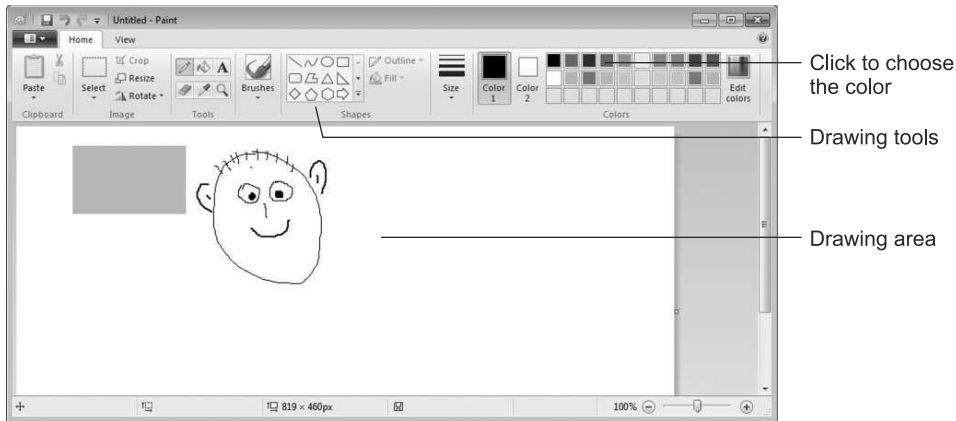


Fig. 2.74 The Paint window

- Click the required tool, e.g., Pencil, Line, Curve or Rectangle on the Ribbon. Then choose the required size (e.g., line thickness) and color.

Note You must select the desired line thickness prior to drawing the line or other shapes. You cannot change the line thickness after drawing the line.

- Move the cursor to the drawing area. Click or drag the mouse to draw the shape. If required, use the Eraser tool to erase a part of the drawing.
- If you need to superimpose text on the drawing, use the Text tool.
- To print the graphics you have drawn, press **Ctrl+P** to display the Print dialog box. Follow the same procedure described earlier in the WordPad section.
- If you need to save the graphics, click the **Save** button on the Quick Access toolbar and follow the same procedure described in the WordPad section. Paint can save the file in various common formats, such as JPEG, TIFF, PNG, GIF and BMP.

2.31.1 Copying Picture to Another Application

If you want to copy the complete picture or a part of the picture to another application, perform the following steps:

1. Use the Select tool to mark the area of the picture you want to copy.
2. Press **Ctrl+C**, the shortcut keys for the Copy command. Paint copies the picture to Clipboard.
3. Open or switch to the other application where you want to paste the copied picture. Move the cursor to the required position and then use the Paste command (Ctrl+V).

2.32 USING SNIPPING TOOL TO CAPTURE SCREENSHOTS



While Windows always had shortcut keys (PrtScn) to capture the screen and Alt+PrtScn to capture the screenshot of the active window, Snipping Tool introduced in Windows 7 makes screen capture more convenient. Snipping Tool enables you to capture any part of the screen that you can paste in any Windows application or save it as JPEG, GIF, PNG or embedded HTML file. Snipping Tools is available in the Accessories menu. To open Snipping Tool:

- Open the Start menu and choose **All Programs, Accessories, Snipping Tool**. You can also search for Snipping Tool in the search box of the Start menu.

Window displays Snipping Tool shown in Fig. 2.75 on the screen and dims the screen. Snipping Tool can capture the screen in four modes: Rectangular snip, Free Form snip, Windows snip and Full-screen snip. *Rectangular snip* captures any rectangular area of the screen whereas *Free Form snip* enables you to capture freehand (non-rectangular) area of the screen. *Windows snip* captures an active window whereas *Full-screen snip* captures the entire screen.

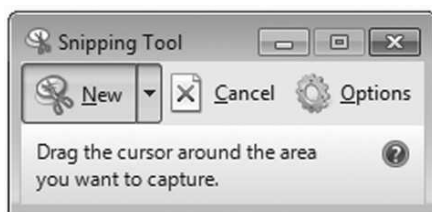


Fig. 2.75 Snipping Tool

- Click the arrow on the right of the New button to choose the type of snip. If you select Rectangular or Free Form snip, drag the cursor around the area on the screen you want to capture. As you drag the mouse, Snipping Tool outlines the area with a red border. When you release the mouse, the Snipping Tool window expands to display the captured screen as shown in Fig. 2.76. (If you select Windows snip, Snipping Tools enables you to choose a windows.)

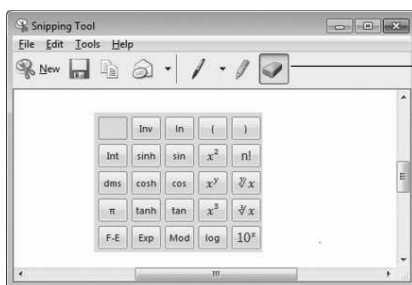


Fig. 2.76 Captured screen area displayed in the Snipping Tool window

- You may use the Pen, Highlighter and Eraser tools to mark-up the captured image, if required. Then press **Ctrl+C** to copy the image or click the **Save** button to save the image. To paste the copied image in any Windows application, click the cursor at the desired location and press **Ctrl+V** or use the Paste command/control.

2.33 STICKY NOTES



You might have seen people sticking paper *Post-it* notes on the edge of their monitors. The Sticky Notes feature of Windows 7 enables you to create virtual sticky notes that you can move around on the screen and delete them with ease when you don't need them anymore. To create a sticky note:

- Open the Start menu and choose **All Programs, Accessories, Sticky Note**.
- Window creates a Sticky Note on the screen and you can type or paste text in the Sticky Note window. Figure 2.77 displays a Sticky Note window with some text.

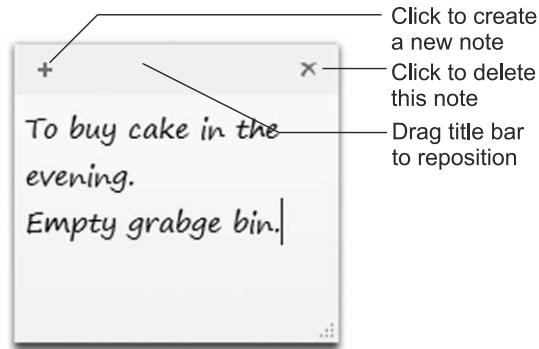


Fig. 2.77 *Sticky Note*

- If you need to create a new sticky note, click + on the top left corner of the Sticky Note window, as illustrated in Fig. 2.77. Similarly, you may click the Delete Note button located in the top-right corner of the window to delete the note.
- If you want to remove the Sticky Notes from the screen but not delete them, right click the Stick Notes icon on the taskbar and choose **Close Window** from the shortcut menu. All Sticky Notes disappear from the screen, but will appear on the screen when you open the Sticky Notes program next time.

2.33.1 Customizing and Formatting Sticky Notes

- The default color of the Sticky Note is yellow, however, if you prefer a different color, right click the note window to display a context menu and click the desired color.
- To format the notes text, drag the mouse to select the desired text and press the corresponding keyboard shortcuts, e.g., **Ctrl+B** for bold, **Ctrl+I** for italic and **Ctrl+U** for underline. Similarly, you can press **Ctrl+T** for the strikethrough style or **Ctrl+Shift+L** to create a bulleted list.

2.34 CREATING SHORTCUTS ON DESKTOP



Placing shortcuts on the desktop can help to quickly run a program or open a file or folder. There are several ways to create shortcut icons on the desktop. We have already discussed that if a program exists in the Start menu, you can drag it to the desktop to create a shortcut. If you want to create a shortcut for a file, folder, program, etc., on the desktop, follow these steps:

- Open the Windows Explorer or Computer window.
- Expand a drive or folder, if required so that the item whose shortcut you want to create is visible in the Content pane.
- Right click the item (file, folder or drive) whose shortcut you want to place on the desktop and choose the **Send To** command and then choose **Desktop (create shortcut)**, as shown in Fig. 2.78.

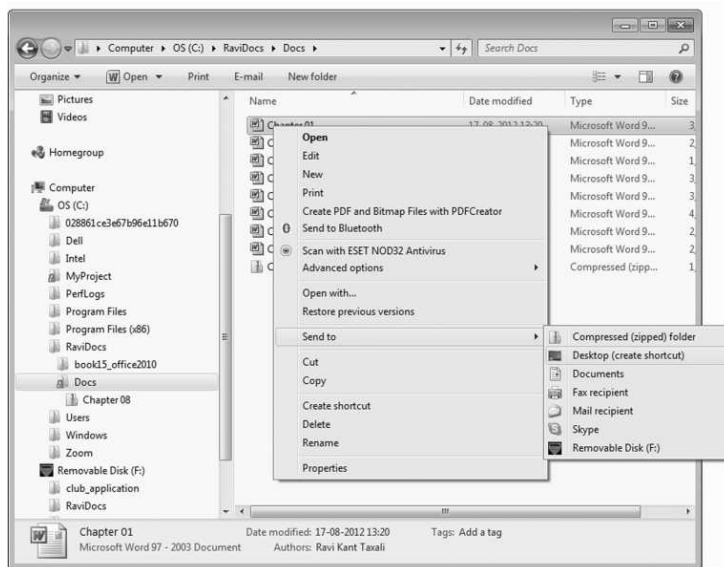


Fig. 2.78 *Creating a Desktop Shortcut*

Note If you choose the **Create Shortcut** command from the context menu, Windows creates the shortcut in the same folder. In that case, you can drag the shortcut from the folder to the desktop.

Another way to create a shortcut on the desktop is by using the Create Shortcut wizard. This wizard guides you through all steps to create a desktop shortcut. Here are the steps to accomplish this.

1. Right click the mouse on any empty area on the desktop to display the context menu.
2. Choose the **New** command and then choose the **Shortcut** command from the submenu. Windows displays the Create Shortcut wizard shown in Fig. 2.79.

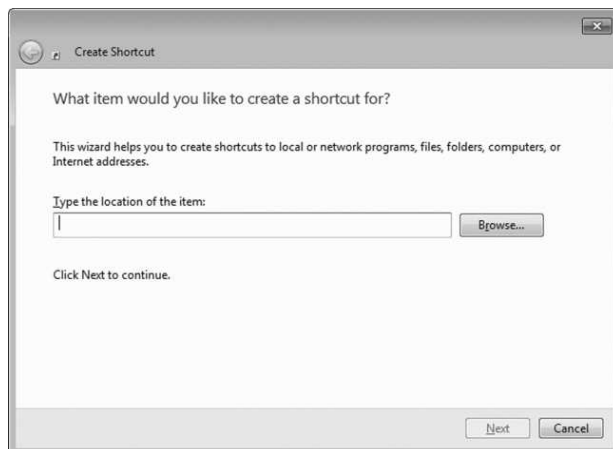


Fig. 2.79 *The Create Shortcut wizard*

3. If you know the location (address) of the item whose shortcut you want to create, you may enter it in the text box. If you do not know the location, click the **Browse** button and Windows displays the Browse For Files or Folders window shown in Fig. 2.80 that can help you to locate the target item. This window is similar to the Navigation pane of Windows Explorer. You can click the triangle icon to expand a folder/drive to reveal its subfolders and files. After you have located the target item, select it and then click the **OK** button, and Windows puts it in the text box on the Create Shortcut wizard.



Fig. 2.80 *The Browse for files or folder window*


4. Click the **Next** button to display the next step of the wizard. In this step, Windows puts a default name for the shortcut in a text box. If you like, you can type a different name.
5. Finally, click the **Finish** button to ask Windows to create the shortcut on the desktop.

After the shortcut has been placed on the desktop, you can double-click it to open the corresponding program, folder or drive. If you want to change the properties of the shortcut, e.g., change the icon or the target item, right click the shortcut and choose the Properties command from the shortcut menu.

2.35 RUNNING A COMMAND



While normally you use the Start menu, taskbar icons or desktop shortcuts to open a program, folder or file, the *Run* command provides an alternate way to accomplish the same task. The experienced users find the Run command useful to run programs which are not available in the Start menu or on the desktop. You can also use the Run command to run the Disk Operating System (DOS) commands. To use the Run command:

- Open the Start menu and click **Run**. Alternatively, press  + **R**, and Windows displays the Run dialog box shown in Fig. 2.81. The last run command automatically appears in the Open text box.



Click to choose previously run commands or type new command in the text box

Fig. 2.81 The Run dialog box

- If you want to run a previously run command, click the arrow to the right of the Open box to display a drop-down list and choose the desired command. To run a new command, type it in the Open textbox. Finally, press **OK** to run the command.
- If you want to run DOS commands, type **cmd** in the Open textbox and press the **Enter** key or click the **OK** button.
- Your monitor displays a Command Prompt window similar to Fig. 2.82. Now you can type any DOS command (e.g., DIR, CHDIR, MD, COPY, DEL, etc.) and press the **Enter** key to run it.



Fig. 2.82 The Command Prompt window

Note You may also be able to open the Command Prompt window from the Windows Start menu by choosing All Program, Accessories, Command Prompt.

- To close the Command Prompt window, click the Close button located at its top right corner in the title bar or type **EXIT** and press the **Enter** key.

2.36 WINDOWS MEDIA PLAYER



Windows Media Player is a useful program to play audio and video on your PC. Besides, playing audio and video files, it can also rip (transfer) music from CDs to your PC, as well as burn digital music files

in a CD. Though Windows Media Player has been around for many years, the version 12 included with Windows 7 features several advanced functions, including streaming of music to other computers in the home as well as over the Internet. To open Windows Media Player:

- Open the Start menu, click **All Programs** and then click **Windows Media Player** in the programs list displayed in the menu. Figure 2.83 displays a Windows Media Player window playing an album from the Music library on the PC.



Click here to reveal items available under this category

Click to choose the source for the media files

Fig. 2.83 *Windows Media Player*

The left side of the Windows Media Player window displays a Navigation pane, which contains the various source for the media files, e.g., Music, Videos, Pictures, Recorded TV, CD/DVD, etc.

- Like Windows Explorer, you may click the triangle icon displayed to the left of an item to expand/collapse items available under an item. For instance, with reference to Fig. 2.83, on clicking the triangle icon to the left of Playlists, it displays playlists stored on the PC.
- On clicking an item in the Navigation pane, Windows Media Player displays the media files/albums available in that source in the middle pane. Then you can double click an item (e.g., album) to displays songs available in that item, and you can double click the album or the song (track) to start playing it.
- At the bottom of Windows Media Player in the middle pane, there are buttons to play/pause, stop, move to next/previous track, volume control, etc.

2.36.1 Playing Music CDs

When you insert a music CD in the CD/DVD-CD drive, Windows may automatically start playing it using Windows Media Player or display an AutoPlay dialog box shown in Fig. 2.84.

- If you see the AutoPlay dialog box, click **Play Audio CD using Windows Media Player**, as illustrated in Fig. 2.84. If Windows Media Player is not open, Windows opens it in the *Now Playing* mode and starts playing the CD.

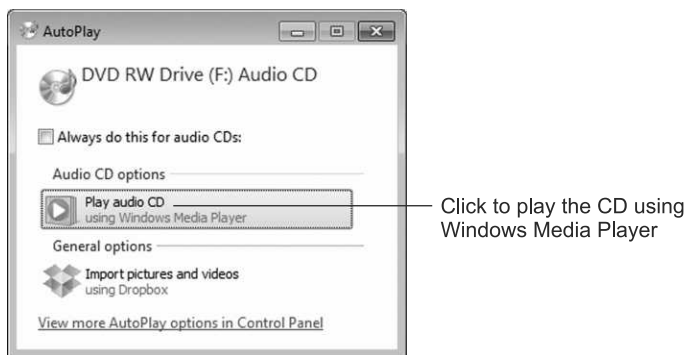


Fig. 2.84 AutoPlay dialog box for audio CD

- The Now Playing mode of Windows Media Player displays a compact player hiding most details. If you want to switch to the regular view, click the **Switch to Library** button, as illustrated in Fig. 2.85.



Fig. 2.85 Windows Media Player in the Now Playing mode playing a CD

2.36.2 Ripping CDs to Hard Drive

You can copy all or selected tracks from an audio CD to your hard drive as standalone files. The process of copying files from CD to the hard drive is called *ripping*. After the files have been ripped to the hard drive, you won't need the CD to play music. Besides, you will also be able to pick your favorite songs from different albums to create *playlists*. Follow these steps to rip music from a CD.

- Start Windows Media Player and insert a CD in the CD/DVD-CD drive.
- Windows Media Player starts playing the CD and selects all tracks, as shown in Fig. 2.86. If you don't want to rip all tracks, click to uncheck the tracks that you do not want to rip.



Fig. 2.86 *Ripping a CD in Windows Media Player*

- Use the **Rip Settings** button (see Fig. 2.86) to change the rip settings, such as the *format* and *audio quality*. The default format is *Windows Media Audio*. If you plan to transfer the ripped files to other devices, you may consider to change the format to *mp3*.
- Finally, click **Rip CD** to start the ripping process. Windows Media Players rips one track at a time and displays the status in the Rip Status column. When the ripping completes, Windows Media Player may automatically eject the CD. The ripped files are now available in the Music library.

2.36.3 Creating a Playlist

Windows Media Player can help you put together your favorite track from one or more albums as a *playlist*. For example, you may create a playlist containing your favorite dance songs. A song can be included in more than one playlist.

- To create a playlist, click the **Create Playlist** button, as illustrated in Fig. 2.87.
- If the right pane lists any tracks, click the **Clear List** button to clear it.



Fig. 2.87 *Creating a playlist*

Now we have an empty playlist. The next job is add tracks (media files) to the playlist.

- Click the source in the Navigation pane which contains the tracks you want to add to the playlist. To add a track to the playlist, either drag it to the playlist area in the right pane, or right click the track and choose **Add to, Play list**, as illustrated in Fig. 2.88.
- In the same way, you can add additional tracks to the playlist from the same or different music source. After you have added the required tracks to your playlist, click the **Save List** button (see Fig. 2.88) to save and name your playlist.

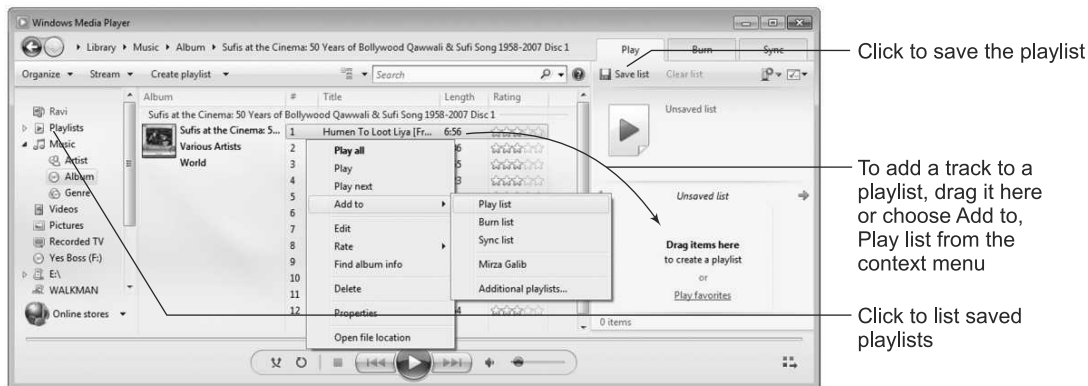


Fig. 2.88 Adding tracks to a playlist

- To view saved playlists, click the **Playlist** link in the navigation pane. Then you may double-click any playlist to play it.

2.37 WINDOWS ESSENTIALS



Windows 7 does not include common application programs, such as email, calendar, chat, address book and video editing. However, all these programs and much more are available for free download from Microsoft. Collectively, these programs are called *Windows Essentials* or *Windows Live Essentials*. The following programs are part of Windows Essentials:

<i>Mail</i>	Microsoft's email program.
<i>Photo Gallery</i>	A program to manage, organise and edit photos.
<i>Messenger/Skype</i>	A program for online chatting.
<i>Movie Maker</i>	A program to create movies and publish them on the web.
<i>Writer</i>	A program to compose blog posts.
<i>Family Safety</i>	A program to manage and monitor children's activities on the web.

We would discuss some of these programs in Chapter 9. If you want to install these programs now:

- Visit the **download.live.com** website or search for "Windows 7 Essentials" in the browser program. (Searching in browser is discussed in Chapter 8.)
- Click the **Download Now** button on the Microsoft website to download the setup program to your computer.

- Open (run) the downloaded file. Click **Yes** when Windows asks if you want to allow the program to make changes to the computer.
- The Windows Essentials setup program asks if you want to install all Windows Essentials programs or selected programs, as shown in Fig. 2.89.



Fig. 2.89 *Installing Windows Essentials*

- Click the first option if you want to install all Windows Essentials programs, otherwise click the second option to choose the programs you want to install.

The installation process takes a few minutes. When the installation completes, you may need to restart your computer. Now you should find the Windows Essentials programs in the Start menu.

3

WORD PROCESSING WITH MICROSOFT WORD

CHAPTER OBJECTIVES

In this chapter, we will discuss the following topics:

- ◆ *Word Processing*
- ◆ *Microsoft Word*
- ◆ *Starting Word*
- ◆ *Creating, Saving and Printing a Document*
- ◆ *Cursor Movement and Editing a Document*
- ◆ *Formatting Text and Paragraphs*
- ◆ *Using Bullets, Numbering and Tabs*
- ◆ *Page Setup*
- ◆ *Print Preview*
- ◆ *Find and Replace Text*
- ◆ *Checking Spelling and Grammar*
- ◆ *Inserting Page Numbers and Page Breaks*
- ◆ *Document Views*
- ◆ *Borders, Shading, Headers and Footers*
- ◆ *Zooming Text*
- ◆ *Changing Case*
- ◆ *Inserting Date, Time and Bookmarks*
- ◆ *Moving to a Specific Page/Bookmark*
- ◆ *Click and Type*
- ◆ *Using Multiple Columns in a Document*
- ◆ *Drawing Tools and Inserting WordArt, Picture, SmartArt and Chart*
- ◆ *Using Symbols, AutoText, Footnotes and Endnotes*
- ◆ *Numbering Figures*
- ◆ *Tracking changes*
- ◆ *Mail Merge: Letters, Envelopes and Labels*
- ◆ *Password Protecting Documents*
- ◆ *Customizing Word and Styles*



3.1 WORD PROCESSING

Word processing, in computer terminology, refers to typing, editing and formatting of any kind of document, which could be a letter, memorandum, balance sheet, or something similar. As the term suggests, word processing simply processes words, i.e., textual information. We can use it to prepare and print professional looking letters, reports, memos, booklets, and so forth. The current word processors are very powerful. Some of the features available in most word processors are:

- Adjustable page size and margins
- Printing selected text in boldface, italic, underlined, superscript or subscript style
- Using different *font* and the size of characters for the selected text
- Paragraph formatting
- Moving/copying selected text to another location within the document or to another document
- Facility to create headers, footers, footnotes and endnotes
- Facility to create multiple-column text and tables
- Including pictures, graphics and charts in the document
- Index and table of contents generation
- Online spelling checking, grammar checking and thesaurus

While working on a word processor, you first key-in (type) the document that you want to print. While keying-in the document, you use various commands to format it in the desired way. We can check on the computer screen for mistakes and correct them. The word processing program normally helps us to correct spelling and grammatical mistakes. The display on the computer screen almost resembles the printed output that one gets on printing the document. Thus, with the word processing program, we can prepare professional looking documents, which are relatively error-free. We can save the document in the computer's disk or USB flash drive for future use.

Normally, business letters are not too different from one another in a particular company. For instance, the second reminder letter asking for payment does not differ much from the first reminder already sent, except for the date, reference number and reminder number. In such cases, if one is using a word processor, the previous letter/document can be recalled from the computer's storage and modified, without retyping it in full. This helps save time and effort.

There are certain jobs, such as tender offer, project report, manuscript of a book, thesis, etc., that require several revisions. In such cases, word processing is very convenient as it permits any number of revisions to be carried out in the document before printing the final version. Word processors have a number of other useful features that can make your job very easy, as you will learn in this chapter.

3.2 MICROSOFT WORD




Microsoft Word is a software program (application) designed by Microsoft Corporation, USA for word processing applications. Since 1990, Microsoft has released several versions of its popular Word program, such as Word for Windows 1.0, Word 2.0, Word 5.1, Word 6.0, Word 97, Word 2000, Word 2001/Word X, Word 2002/XP, Word 2003, Word 2004, Word 2007, Word 2008 and Word 2010. Some of these versions are also available for other operating systems, such as DOS and Mac (Apple PC). The new releases usually have a few additional commands and features. However, the basic features are the same in all versions.

In this chapter, we will use Word 2010. If you use any other version of Word, the screen displays that you get may be slightly different from those used in the examples in the chapter. However, version prior to Word 2007 do not support the Ribbon interface, therefore, to use the commands available on the Ribbon, you will need to use the corresponding menus.

Note Hereafter, we will not specify the version number (2010) after 'Word'. However, you should remember that when we use 'Word' in the text, we are referring to Word 2010.

3.2.1 Starting Word

Assuming that your PC is on and Windows is running, depending on how your PC is setup, you can start Word in several ways.

- If there is an icon for Word on your desktop, double click that icon to start Word. The Word icon normally looks like .
- If Word icon is available on the taskbar (or on Quick Launch toolbar on your taskbar if you are using Window XP/Vista), you can start Word by clicking that icon.
- You may also start the Word program from Windows Start menu. The Word program may be located in the Start menu or anywhere in the menu system. You may find it in the Start, Programs/ All Prgrams submenu, Microsoft Office or Microsoft Applications. If you still cannot find the Word Program, click the **Start** button and type **Word 2010** in **Search Programs and files** text box to ask Window 7 to find it for you.

On starting Word, you see a Word window similar to Fig. 3.1. Word displays the name of the program, i.e., Microsoft Word in the title bar of the window. In the title bar, it also displays the name of the currently open document. Although you did not open any document, Word automatically creates an empty document, names it 'Document1' and opens it for you. So, if you want to create a document, say a letter, you can straightaway start typing. You can give it any name at the time of saving the document.

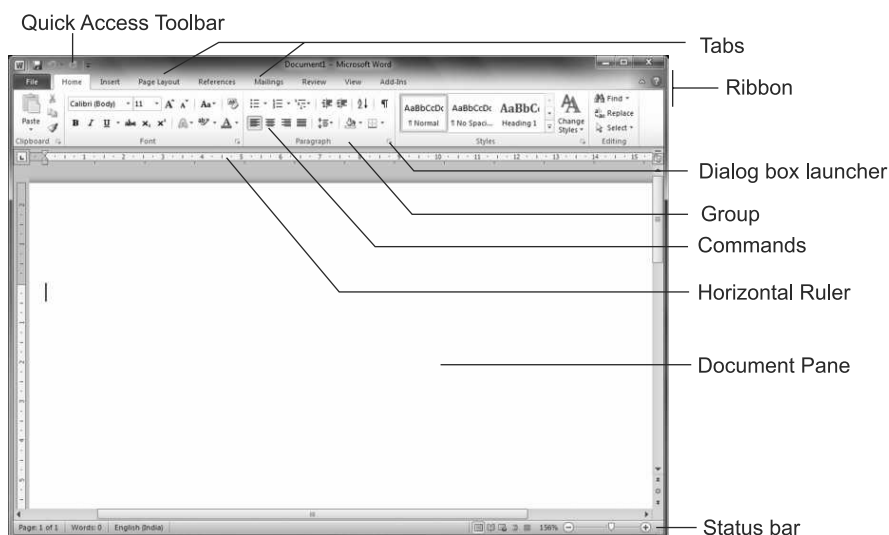





Fig. 3.1 Word 2010 opening screen

Ribbon Interface If you have used Word 2007, you are already familiar with the *Ribbon* interface used with Word and other Microsoft Office programs. The menus, submenus and toolbars dialog box used in earlier versions of Word are gone. As more and more features were added to Word and other Office products, the menu structure (File, Edit, Format, Help, etc.) became too complex. In Office 2007, Microsoft replaced the original menu interface with the Ribbon interface, where commonly used commands/tools are always visible. In the Ribbon interface, the various commands are divided into various tabs, such as File, Home, Page Layout, Reference, Mailing, Review and View. Word starts with the Home tab, however, you may click other tabs, as required to access the corresponding tools, features or commands. Besides, when you select a specific object, Word may display an additional *contextual* tab; for example, when you click a picture, Word displays the Picture Tools tab.

In Fig. 3.1, the Home tab is selected and the Ribbon displays tools, commands and features classified into various *groups*, such as Clipboard, Font, Paragraph, Styles and Editing. Each group displays commonly used options for quick access, however, to access the full set of options, you may click the *dialog box launcher* icon (). Dialog box launchers are located at the bottom right corners of groups on tabs, as illustrated in Fig. 3.1. As you would see, one feature of the Ribbon, called *live preview*, is particularly helpful. Live preview lets you preview the effect of several potential changes on the selected text in your document by simply pointing to options on the Ribbon.

Normally, you will be able to determine the task Word will perform on clicking a button or icon by just looking at the graphics. However, if you are not sure, move the mouse pointer on the corresponding button or icon and wait for a second, and Word displays a *Tooltip*. For instance, if you hold the mouse pointer on  (Bold button), Word displays the following tooltip:



Bold (Ctrl+B)
Make the selected text bold.

We will discuss additional features of the Ribbon interface along with describing how to use Word. Above the top left corner of the Ribbon is a customizable Quick Access toolbar that contains icons for most commonly used commands, e.g., Save, Undo and Redo changes.

The empty area below the Ribbon is called the *Document pane* where you type your document or Word displays an existing document. Depending on the selected options, you may also see a ruler at the left and top of the document pane. The ruler shows the area available for typing and also helps to set and clear tab stop positions. On the right side and the bottom of the document pane, Word shows *scroll bars*. The scroll bars help you to view other parts of the document when your document cannot be displayed completely in the document window, which is usually the case. The last line of the Word window, called the *status bar* displays useful information, such as the current page, line number, number of words in the document, etc., on the left side, and view controls and zoom settings, etc., on the right side. The status bar is customizable; you can control the elements you want to display on the status bar by right clicking the status bar and checking the desired elements on the *Customize Status Bar* context menu displayed by Word.

3.3 CREATING A DOCUMENT




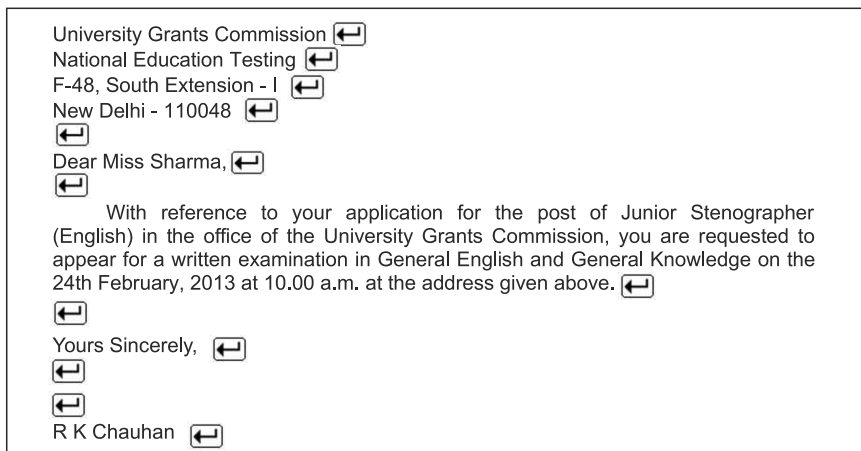
As you know, when you start Word, it automatically creates a new document—Document1. So, you can straightaway start typing the text, i.e., there is no need to use any command to first create a document. After you have typed your document, when you save it, Word asks for the filename. At that time, you can assign a suitable filename to Document1 and save it in the desired folder.

Typing text in Word is slightly different from using a manual typewriter. If you have never worked on a word processor, remember the following points while typing text in a Word document:

1. While typing text in a paragraph, when you reach near the end of the line, do not press the Enter key, as you would have done on a manual typewriter. Just continue typing and Word automatically moves the last word of the line to the next line if it goes past the right margin (Thanks to Word's *word wrap* feature!). Press the Enter key only when the paragraph ends.
2. If you need to center text in a line, for example in headings, do not use the Tab key or spacebar for doing that. Instead, you can use a command to center a line on the page. Similarly, if you need to align a line on the right side of the page, do not use spacebar or the Tab key.
3. If you need to type a table, do not use spacebar to align columns. For creating multi-column tables, either use Tabs or the Table facility. You will learn about using tabs and tables later in this chapter.
4. Do not use the Enter key repeatedly to start a new page. Use the corresponding command for starting the new page. However, you may press the Enter key if you want to have a blank line in your document.

Consider the sample letter shown in Fig. 3.2. Try to enter this letter in the Document1 file that is already open.

Note Although you know that you have to press the Enter key only at the end of the paragraph, we have still marked the end of the paragraph (where you need to press the Enter key) with . Use the Tab key to indent the first line of the paragraph.
















University Grants Commission 
National Education Testing 
F-48, South Extension - I 
New Delhi - 110048 

Dear Miss Sharma, 

With reference to your application for the post of Junior Stenographer
(English) in the office of the University Grants Commission, you are requested to
appear for a written examination in General English and General Knowledge on the
24th February, 2013 at 10.00 a.m. at the address given above. 

Yours Sincerely, 


R K Chauhan 


Fig. 3.2 A sample letter

If the online spelling check option is enabled in Word on your PC, Word may highlight the spelling mistakes with a wavy (curly) red underline. In the same way, if the online grammar check option is on, it may highlight grammatical errors through green wavy underline. Ignore it for the time being.

When you type a document, it is being stored in the temporary Random Access Memory (RAM) of your PC. The temporary memory loses its contents if the electric supply (AC power) connected to your PC gets disconnected or you reset your PC. To make the document permanent, you need to save it in a disk file in the hard disk, floppy disk or USB flash drive of your PC.



3.4 SAVING A DOCUMENT IN A DISK FILE

- To save the document that you have typed in a disk file, click , the Save button on the Quick Access toolbar located at the top left corner of the Word window. You can also accomplish the file save operation by pressing **Ctrl+S**, the shortcut keys for the Save command.

On using the Save command, Word displays the **Save As** dialog box shown in Fig. 3.3. If you are running Windows XP or Vista operating system, your Save As dialog would look different. The Save As dialog box enables you to assign a filename to the document you are saving. Besides the filename, you can also select the drive and the folder where you want to store this file. The filename that you want to assign to the document has to be typed in the filename box. Word selects a default drive and folder (directory) for saving files. For instance, in Fig. 3.3, the currently selected folder is 'Documents Library'. So, if you do not change the folder, the file will be saved in this folder. (Your computer may display a different folder.) If you want to save the file in some other folder, perform the following steps:

- ☐ To select a folder that is visible in the Save As dialog box, double-click it. For instance, to save the document in the GardenTools folder, double-click to open this folder.
- ☐ To save the document in a new folder, click the New Folder button.
- ☐ To select a different major area, e.g., Desktop instead of Documents Library, click it. Then double-click to open a folder that may exist in the selected area.
- After you have selected the folder to save the document into, type a suitable filename. If you prefer, you may keep the filename suggested by Word. Finally, click the **Save** button to save the file.

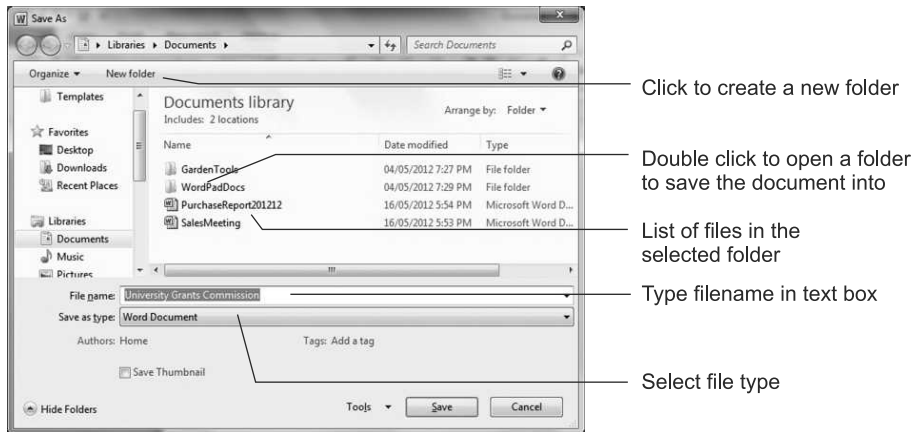


Fig. 3.3 Save As dialog box

3.5 PRINT AND PRINT PREVIEW A DOCUMENT



If you wish to print a document, it must be open. It is always a good practice to *Print Preview* the document to get a bird's eye view of the document before printing. You can preview the document, change print settings and print the document from one location, the *Backstage* view.

- Click the **File** tab to open the Backstage view. The left section of the Backstage view has commands, such as Save, Save As, Open, Close, Info, Print, Help, etc.
- Click **Print** and Word displays the Print settings in the middle pane and preview of the document in the right pane, as shown in Fig. 3.4.

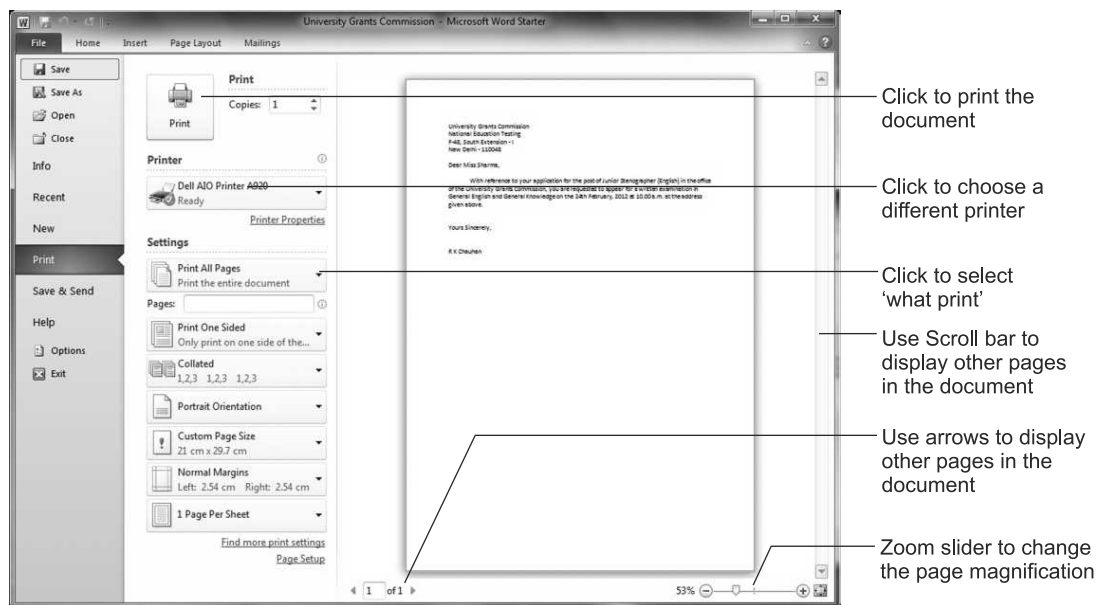


Fig. 3.4 Print settings and previewing a document

Tip Press **Ctrl+P**, the shortcut keys for the Print command to directly display Print Preview while working in any tab.

The preview pane displays the preview of the current page, as you would get when the page is printed. If your document has multiple pages, use the scroll bar or the arrows in the Page Control, located in the bottom left corner of the preview pane. The *Zoom* slider located in the bottom right corner of the preview pane is used to change the page magnification.

The middle section displays the Print button, currently selected printer and the current print settings. The default settings are good to print one copy of all pages of the document on the default printer. Therefore, if you click the Print button, Word prints one copy of the document on the default printer. If multiple printers are attached to your PC and you want to print the document on some other printer, click the current printer name to display the list of installed printers and choose the desired printer. If you want to print more than one copy, use the **Copies** spinner control to type or select the number of copies. On clicking **Print All Pages**, Word displays options to print the current page, the selected text or a custom print range. If you choose **Custom Print Range**, Word displays a Pages text box to enter the page range, e.g., **2-4** to print pages from 2 to 4. Similarly, you may enter **2,4,8-10** to print page numbers 2, 4 and 8 to 10. If you need more control on the printing process, click the **Printer Properties** link located under the printer name.



3.6 RESAVING AND CLOSING A DOCUMENT

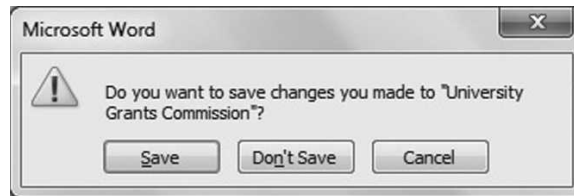
On printing the document, if you find that you have missed out a line at the end, you can type that. Similarly, you may correct the mistakes in the document, if any. After you modify your document, you need to resave it to write the changes back to the disk.

- Click  on the Quick Access toolbar or press **Ctrl+S** to resave the document.

Another way to save the document is by choosing the Save command in the Backstage view. (Click the File tab to open the Backstage view.) You should periodically save your document as you edit it so that you do not lose the changes due to power failure or computer malfunction. Once you are finished with a document, you can close it.

- To close the current document file, press **Ctrl+W** or click **Close** in the Backstage view.

If you try to close a document and you have not saved the latest editing changes in the file, Word displays a dialog box similar to the following.



Now, you have three options:

- ☐ **Save:** Word saves the changes in the file and closes it.
- ☐ **Don't Save:** Word does not save the changes and closes the file. The latest modifications to the document will be lost.
- ☐ **Cancel:** Word cancels the file close command and returns you to the document.



3.7 CREATING A NEW DOCUMENT

- To create a new document, either press **Ctrl+N** keys or click **File** to open the Backstage view and click **New**.

If you press Ctrl+N, Word immediately creates a new document and assigns it a temporary name, such as Document2, Document3, etc. This document, based on the Normal *template*, is similar to the blank document Word creates when it starts. However, if you click **New** in the Backstage view, Word displays the list of templates in the middle pane and the preview of the selected template and a Create button in the right pane, as shown in Fig. 3.5. (Click the **File** tab to open the Backstage view.)

The templates available for use are displayed in the Available Templates box in the upper part of the middle pane. A *template* is a special kind of document with predefined page layout and document formatting styles. Optionally, it may also contain text and images. In other words, a template performs like a framework around which Word creates a document. For instance, a Fax template may already contain the Fax title and a header section to enter From, To, Subject, Number of pages, etc. The Word

templates are available under various categories, such as Blank Document, Blog Post, Recent Templates, Sample Templates and My Templates. In addition, you may search for professional templates at Office.com, Microsoft's online resources and download in your computer.

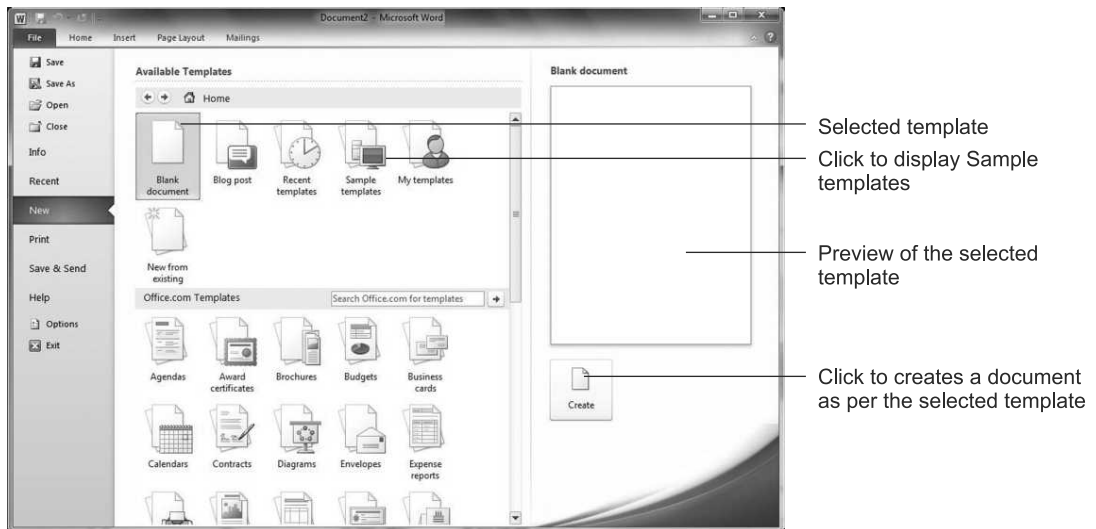


Fig. 3.5 *Creating a new document*

By default, Word selects the Blank Document template. If you click the Create button while Blank Template is selected, Word creates a blank document based on the normal template (Normal.dotm). When Word is installed, it automatically installs several templates.

- Click **Sample Templates** to display the list of sample templates available in your PC. (See Fig. 3.6.)

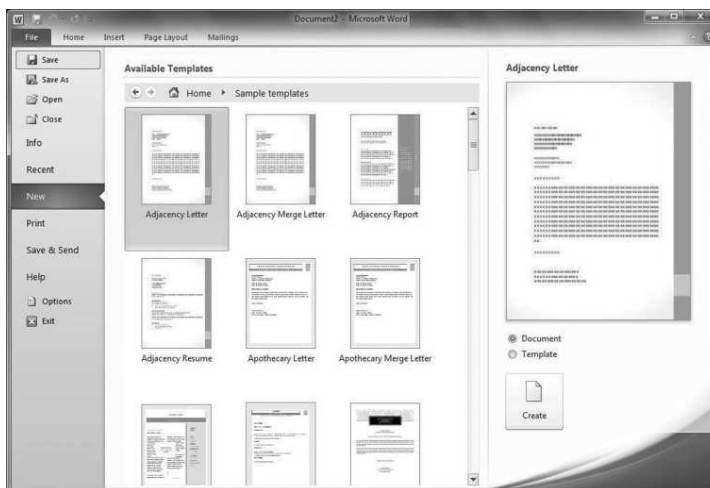


Fig. 3.6 *Templates available under the Sample Templates category*

On clicking a template in the middle pane, Word displays its preview in the right pane. On clicking the Create button located in the right pane, Word creates a new document. Figure 3.7 displays a Fax document created using the Fax template.

[TYPE THE SENDER COMPANY NAME]
 (Type the company address)
 (Type the phone number)
 (Type the web address)
 (Pick the date)

Fax

TO: (Type recipient name) FROM: Home
 (TYPE THE RECIPIENT COMPANY NAME) PAGES: (Type the number of pages)
 FAX: (Type the recipient fax number) FAX: (Type the sender fax number)
 PHONE: (Type the recipient phone number) PHONE: (Type the sender phone number)

CC: (Type text)
 RE: (Type text)

COMMENTS:
 (Type comments)

Fig. 3.7 A fax document created using a template

Note Wizards, which enabled users to create some documents, such as memo and resume in interactive way in earlier versions of Word are not available in Word 2010 and Word 2007. The wizards have been replaced with templates.

3.8 GETTING HELP



Word is a huge application and no one expects you to remember how to do various tasks. If you are not sure how to accomplish a task, you can take the help of Word Help, which contains a number of useful articles. By default, Word searches for the help file on your computer as well as on the Internet through **www.office.com**.

- To open the help window, press **F1** or click the Help button (??) located on the top right corner of the Word window as well as all dialog boxes. Word displays the Word Help window shown in Fig. 3.8.

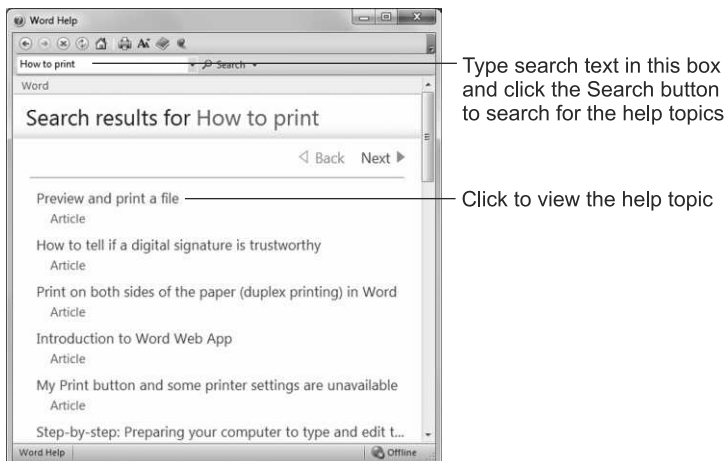


Fig. 3.8 Word Help window

- Type a few words regarding the help topic you are looking for in the search box at the top and click the **Search** button and Word displays the search results matching the entered search text.
- To read a help topic, click the corresponding help topic link. To close the Word Help window, click the Close button located on the top right corner.

3.9 OPENING A DOCUMENT



You may need to open an existing document to make changes or print it. Word can help you to open a required document with ease.

- To view the list of recently edited documents, click the **File** tab to display the Backstage view and then click **Recent** in the left pane.

Word displays a list of recent documents in the middle pane shown in Fig. 3.9. If the document you want to open is listed in the Recent Documents box, you may click to open it. Word can also display the list of recent documents in the left pane below Close in the left pane if the “Quickly access this number of Recent Documents” checkbox in the middle pane is checked. In that case, you may also open a document by clicking its name in the left pane.

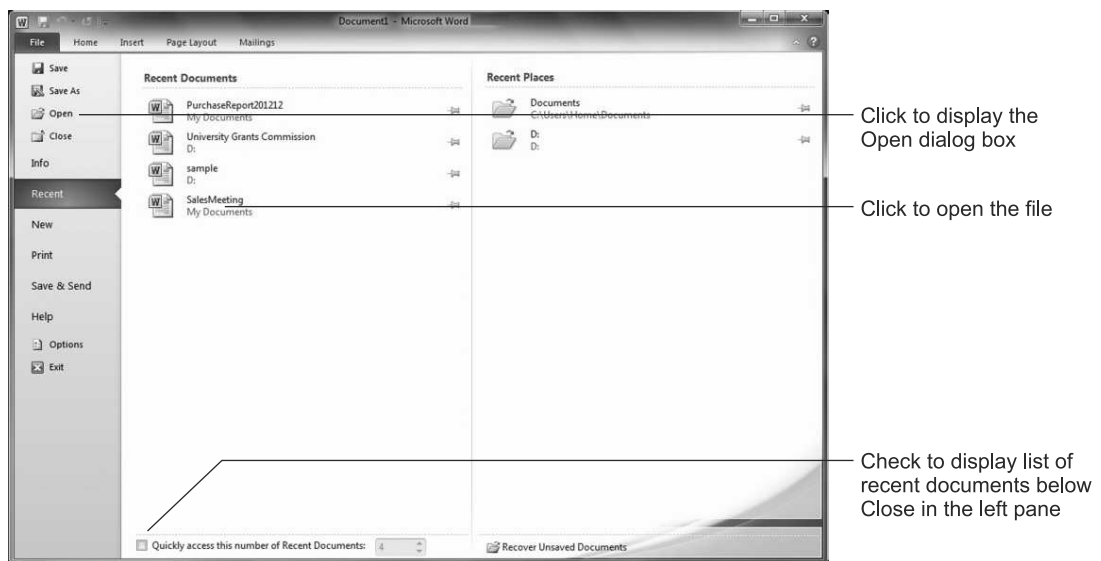


Fig. 3.9 Opening a document in Backstage view

- If the document you want to open is not listed in the Backstage view, click **Open** in the Backstage view to display the Open dialog box shown in Fig. 3.10.

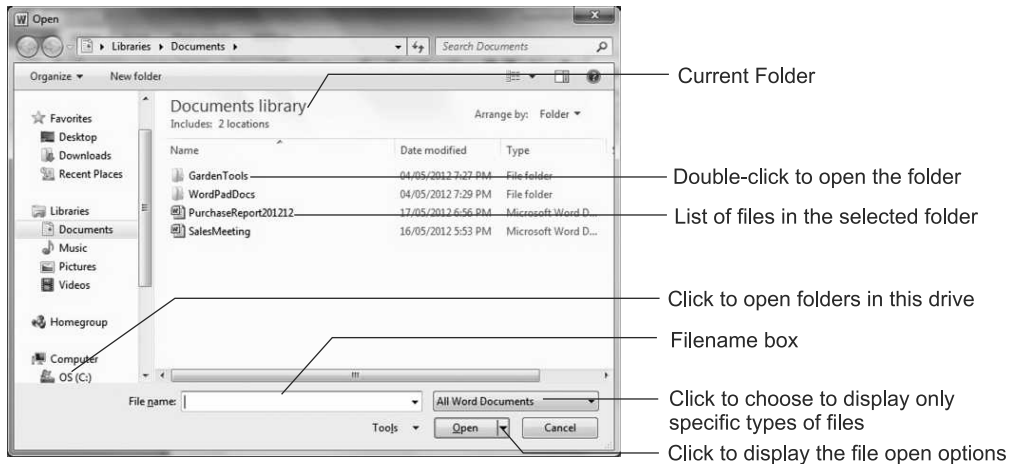


Fig. 3.10 Opening a document in the Open dialog box

Tip You can press **Ctrl+O** to display the Open dialog box from any tab.

The filenames displayed in the list box are only from the selected folder. For instance, in Fig. 3.10, the Open dialog box displays Word document files from the Documents Library folder. To display files available in other folders, you need to open the corresponding folder. To open any folder that is displayed in the Open dialog box or whose icon is displayed in the left pane, double click it. For example, in Fig. 3.10, you may double click **GardenTools** to display Word documents available in this folder. Similarly, you may double click **Desktop** to display documents available on your desktop. On clicking the drive letter displayed under Computer, the Open dialog box displays folders and documents available on the drive. In the same way, you may navigate to any folder on the network your computer is connected to. To open any document whose filename is displayed in the Open dialog box, double-click the filename or type the filename in the **File Name** box and click **Open**.

Note As you make selections of folders in the Open dialog box, you may use the Back and Forward buttons, located in the top left corner to switch back and forth to your selections. These buttons look similar to the Back and Forward buttons on the browser and have similar functionality.

3.9.1 Opening Documents from Earlier Versions of Word/Other Programs

You don't need to do anything special to open documents created in earlier versions of Word, e.g., Word 97 or Word 2002/2003 as Word 2010 seamlessly opens those documents. You can edit those documents and when you save them, Word saves them in the original old format. If you plan to use new features available in 2010, you should convert the documents to the Word 2010 format (.dotx) by using the Save As command from the File tab, choosing Word Document as Save as type and clicking Save.

Word can also open non-Word documents files, such as Word templates, text files, XML files and WordPerfect documents. To display a specific type of file in the Open dialog box, click the **All Word Documents** button and choose the document type. When you open a non-Word document, Word automatically performs the file conversion, if required.

3.9.2 Opening a Copy of the File

Instead of opening and modifying a document, you may ask Word to make a copy of a document file and open the copy for editing. This keeps the original file unchanged and you are free to modify the copy as you wish. To open a copy of a document file:

- Click to select the file that you want in the Open dialog box and click the down-pointing arrow to the side of the Open button (see Fig. 3.10) to displays the file open options, such as Open as Copy, Open Read-Only and Open.
- Click the **Open as Copy** option and Word makes a copy of the selected file, assigns it a name, such as Copy (1) SalesMeeting, and opens it for editing.

3.9.3 Opening a File in the Read-Only Mode

If you choose the Open Read-Only option from the Open button in the Open dialog box, Word opens the file in the Read-only mode. While Word allows you to modify the opened document, at the time of saving the document, you will need to define another filename to save the modified document into. Word does not allow you to overwrite a document file opened in the Read-only mode.

3.9.4 Switching Between Open Documents

Word allows you to simultaneously keep more than one document open. To open another document while one is open, use the File, Open command (or press Ctrl+O) and open the document in the usual way. If more than one document is open in Word, you can switch between the open documents using the View tab or the Windows taskbar. To use the View tab method, perform the following steps:

- Click the **View** tab and then click **Switch Windows** located on the right, and Windows displays a list of open documents in a dropdown list, as shown in Fig. 3.11.
- Click the document you want to view from the dropdown list.

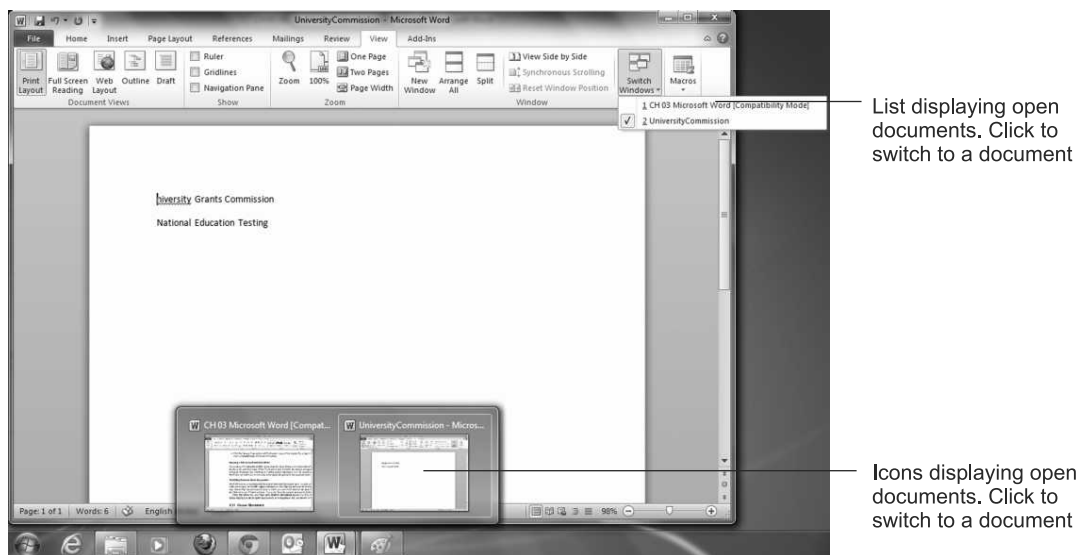


Fig. 3.11 Switching between multiple open documents

To switch documents using the Windows taskbar, follow these steps:

- Click the Word button in the Windows taskbar and Windows displays an entry/icon for each open document as shown in Fig. 3.11.
- To view a document, click the corresponding entry/icon. If you wish to close an open document, click the red close button displayed against the document entry/icon.

Note If you do not see all open documents on Word button on the taskbar, open the **Word Options** dialog box from the backstage view, click **Advanced** and check **Show all windows in the Taskbar** in the Display section.

3.9.5 Viewing Multiple Open Documents Simultaneously

When multiple documents are open, Word can display them simultaneously. To do so, click the View tab and then click Arrange All in the Window group. This divides the screen into two or more Word windows, each displays one document. You can click in any window to carry out editing, or resize or close these windows in the usual way.

3.10 CURSOR MOVEMENT



While editing a document, the cursor movement is the basic requirement. You need to move the cursor, also known as *insertion point* to the desired place in the document to insert new text or begin selecting text.

As you know, a typical cursor is a blinking vertical line. When you open a document, initially, Word places the cursor (insertion point) at the beginning of the document. To move the cursor to any location in the document, all you need to do is move the mouse pointer there and click. If you need to move the cursor to a part of the document that is currently not visible on your screen, *scroll* the document by using the scroll bar located at the right/bottom of the window. Alternatively, you can also use the scroll wheel on your mouse. This has already been discussed in the previous chapter.

3.10.1 Using the Keyboard to Move the Cursor (Insertion Point)

Sometimes, it is faster to move the cursor by using the keyboard shortcut keys. On the right-hand side of the keyboard, you find four arrow keys. You can use these keys to move the cursor in the direction of the arrow keys. Word supports a number of other cursor movement commands to move the cursor to the next/previous word or paragraph, beginning/end of the line/document, etc. The list of commonly used keyboard shortcuts is given below.

To move	Press Key(s)
One character to the left	Left Arrow (←)
One character to the right	Right Arrow (→)
To the previous word	Ctrl+Left Arrow
To the next word	Ctrl+Right Arrow
To the end of a line	End
To the beginning of a line	Home
To the previous line	Up Arrow (↑)
To the next line	Down Arrow (↓)

Up one screen (scrolling)	PgUp
Down one screen (scrolling)	PgDn
To the end of a document	Ctrl+End
To the beginning of a document	Ctrl+Home

Note '+' has been shown only for readability. Do not press the '+' key. '+' indicates that you need to press these keys simultaneously. For instance, Ctrl+Left Arrow means press and hold the Ctrl key and then press the left arrow (←) key.

3.11 EDITING A DOCUMENT



In real life, when you type a document, it may not be error-free in the first attempt. Most of the errors are typographical, i.e., misplaced, omitted or extra characters typed unintentionally. The process of changing text to correct mistakes or to revise text is called *editing*. There are three basic ways of correcting mistakes—inserting, deleting and overtyping.

3.11.1 Inserting Text

You can insert text anywhere in an open document. However, before you start inserting text, make sure that you are working in the Insert mode. By default, Word works in the Insert mode and may display the Insert status button on the status bar.

Note If you do not see Insert or Overtype status button on the status bar, right click any empty area on the status bar to display the **Customize Status Bar** menu and click **Overtype**. Then click anywhere outside the menu to turn it off.

While working in the Insert mode, to insert text, you need to move the cursor (insertion point) to left of the character where you want to insert new text and start typing new text. This is illustrated in Fig. 3.12. For instance, to insert “different” before “operations” in the document open in Fig. 3.12, we need to click before “operations” to move the cursor and then type **different**. As you insert text in the document, Word automatically pushes the text down and reformats the document. You can insert any amount of text anywhere in the document.

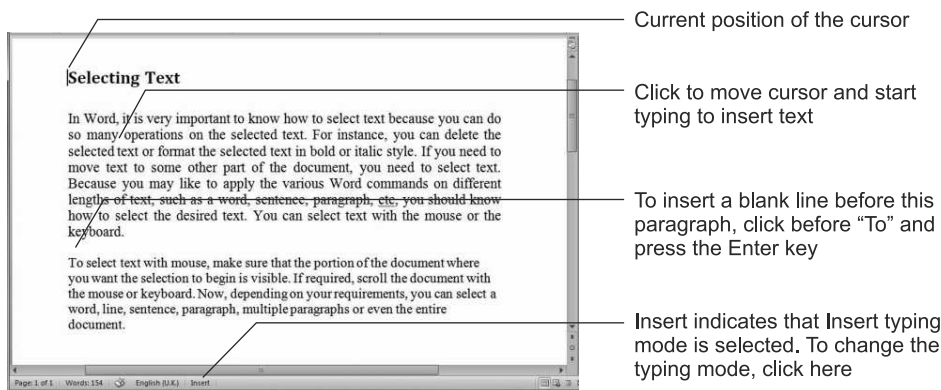


Fig. 3.12 Editing a document

3.11.2 Deleting a Character

On your keyboard, there are two keys that you can use to delete characters. These are Del and Backspace. The Del key deletes the character to the right of the cursor position and Backspace deletes the character to the left of the cursor position. For example, in Fig. 3.12, the cursor is position to the left of “S” in the first line, therefore, on pressing the Del key, the character “S” would get deleted.

3.11.3 Overtyping

In the overtype mode, the typed character replaces the next character. However, if any text is selected (discussed later in this Section), the typed character replaces the entire selected text. If you continue typing in the overtype mode, Word continues to replace old characters with the newly typed characters.

- To select the Overtyping mode, click the Insert button on the status bar. Depending on the selected options, you may also be able to toggle the Insert/Delete mode on pressing the Ins key on your keyboard.

3.11.4 Inserting a New Paragraph and a Blank Line

If you need to insert a new paragraph at the end of the document:

- Press **Ctrl+End** to move the cursor to the end of the document.
- Press the **Enter** key to insert a new paragraph.

Now you can type the text in the newly inserted paragraph. In the same way, if you need to insert a blank line or new paragraph before an existing paragraph, move the cursor to the beginning of the paragraph and press the **Enter** key, as illustrated in Fig. 3.12.

3.11.5 Splitting a Paragraph

- To split a paragraph in two parts, click the mouse in the paragraph at the desired location, and press **Enter**.

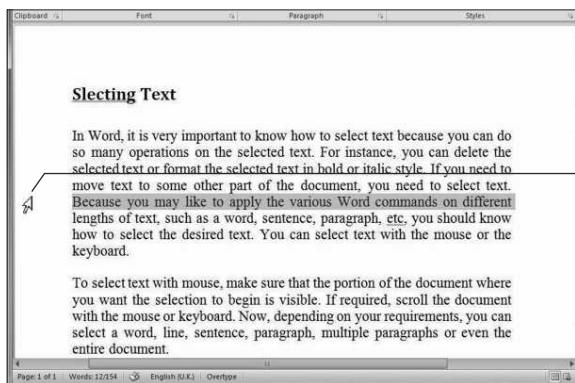
3.11.6 Selecting Text

In Word, it is very important to know how to select text because you can perform so many operations on the selected text. For instance, you can delete, copy or move the selected text or format it in bold or italic style. Because you may like to apply the various Word commands on different lengths of text, such as a word, sentence, paragraph, etc., you should know how to select the desired text. You can select text with the mouse or the keyboard.

- To select text with mouse, make sure that the portion of the document where you want the selection to begin is visible.

Now, depending on your requirements, you can select a word, line, sentence, paragraph, multiple paragraphs or even the entire document.

- To select a line of text, move the mouse pointer to the left of the line until the mouse pointer changes to a right pointed arrow, and then click, as shown in Fig. 3.13.
- Similarly, to select a paragraph, double-click while the mouse pointer is showing a right pointed arrow or triple click anywhere in the paragraph.
- If you want to select a sentence, press and hold the **Ctrl** key and then click anywhere in the sentence. To select a word, double-click the mouse anywhere on that word.



To select a line of text, move mouse pointer to the left until the pointer changes to the right pointing arrow and then click once.

Fig. 3.13 Selecting text with mouse

Another way to select text with the mouse is by *click and drag*. That is, click the mouse where you want the text selection to begin and without releasing the mouse button, drag the mouse in any direction. As you drag the mouse, Word highlights and selects the text. When you release the mouse, the text selection freezes. To deselect the selected text, click mouse anywhere in the document. Though normally not required, if you need to select a vertical block of text, drag the mouse with the Alt key pressed.

- To select the entire document, move the pointer to the left of any line of text until it changes to a right pointed arrow, and then triple click. The keyboard shortcut keys to select the entire document is **Ctrl+A**.



By using a combination of certain keys, you can select the desired text very quickly. The basic steps to select the text with keyboard are as follows:

- Click mouse to the location where you want the text selection to begin.
- Press and hold the **Shift** key and then press the required keys to move the cursor. As you move the cursor, Word selects the text. For instance, if you press and hold **Shift** and then press **Ctrl+→**, Word selects the next word. If you want to select the next word too, keep the **Shift** key pressed and then press **Ctrl+→**. Similarly, pressing the down arrow (↓) key or the up arrow (↑) key while holding the Shift key down selects the text in the corresponding direction.

What is a Paragraph? In Word, when you start typing in a new document, you enter text in the first paragraph. Your paragraph may have any number of lines. When you press the Enter key, Word ends the paragraph and starts a new one. Thus, only the Enter key marks the end of the current paragraph and starts a new paragraph. When you press the Enter key, Word inserts a special symbol at the end of the paragraph. This special symbol is ¶. If you like, you can see these symbols in your documents.



- Click the **Home** tab, if required on the Ribbon. Next, click the ¶ button on the Ribbon in the paragraph group. This button is called the **Show/Hide ¶** button. Word turns on the display of *non-printing* characters. It displays the ¶ symbol at all places where you pressed the Enter key. In this mode, Word displays a 'dot' for every spacebar and → for the Tab key used in the document.

The ¶ symbol is a part of the paragraph. Therefore, when you need to select a paragraph, you must also select this symbol. When you triple click to select a paragraph, Word automatically selects the paragraph mark. If you are not sure whether the paragraph mark has been selected, you may turn on

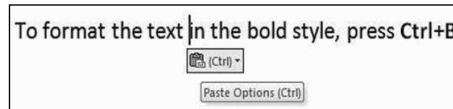
the display of paragraph marks by clicking  on the Home tab. To turn off the display of non-printing characters, click  again.

3.11.7 Moving Text

To move text from one location to another in a document, Word provides several convenient ways. First you need to select the text that you want to move. Use any of the techniques described earlier in this section to select the desired text. Now to move the selected text, use any of the following steps.

1. Drag the selected text with mouse to move the text. As you drag the mouse, a dotted vertical line moves with mouse. Make sure that the dotted line is placed where you want to move the text. When you release the mouse button, Word moves the text to the new location.
2. Use the **Ctrl+X** keys or the scissors icon  in the Clipboard group of the Ribbon to cut the selected text. Word removes the text from the document and saves it on Clipboard (memory). Next, move the cursor where you want the cut text to be placed and click  in the Clipboard group on the Home tab or press **Ctrl+V**.




When you paste text, Word may display the Paste Options icon, as shown below.



When you paste text, it is possible that the formatting of the source text and the destination paragraph is different, e.g., source text may in bold style while the destination in normal style. On pressing the **Ctrl** key or clicking the **Paste Options** icon, Word displays three paste options: Keep Source Formatting, Merge Formatting and Keep Text Only. The first option keeps the source formatting, the second merges the formatting to use the formatting used by the majority of text in the paragraph and the third option copies only text. Thus the pasted text gets the formatting of the destination paragraph.

3.11.8 Copying Text

Copying text is similar to moving text. You can copy text in the same document as well as to another document. The first step in the copy text process is to select the desired text.

1. To copy text in the same document with mouse, drag the selected text while keeping the **Ctrl** key pressed. Word attaches the plus symbol (+) to the mouse pointer to indicate the copy process. As you drag the mouse, a dotted vertical line moves with mouse. When the dotted line is positioned at the right spot, release the mouse button. Word immediately copies the text to the new location. Now release the **Ctrl** key.
2. Press **Ctrl+C** keys or click  on the Ribbon to copy the selected text in Clipboard (memory). Next, move the cursor where you want to paste the text and press the **Ctrl+V** keys or click  on the Ribbon.
3. To copy text in another document, open or select the other document and move the cursor to the position where you want to copy the text. Next, press **Ctrl+V** or click  to paste the copied text. Like moving text, Word also displays paste icon/options when you paste text.

3.11.9 Previewing Paste Options

You may also see the paste options on the context menu when you right click the mouse, as shown in Fig. 3.14. When you move the mouse pointer on any paste option, Word previews the text being pasted

in the document. In other words, you get an idea how the document will look if you paste the text using a particular paste options. To complete the paste operation, click any of the three paste options.

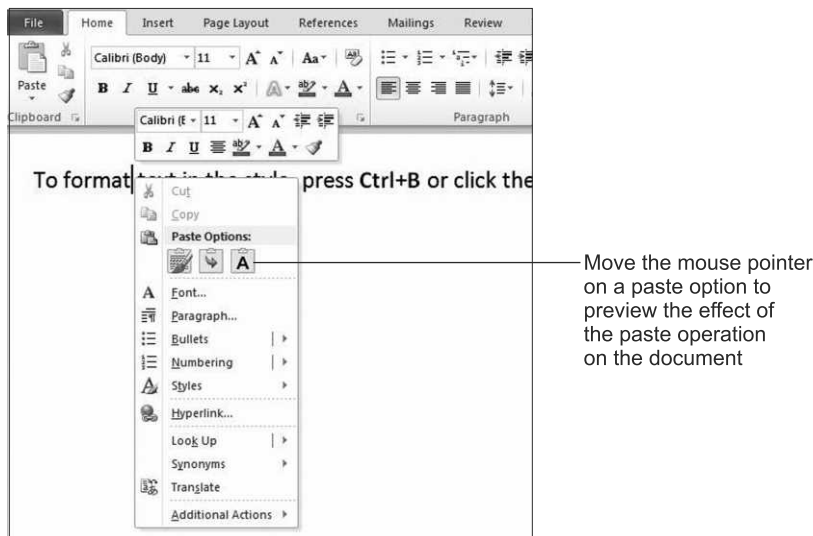


Fig. 3.14 Paste options in the context menu

3.11.10 Deleting Text

To delete text, you need to perform the following two steps:

1. Select the text you want to delete using keyboard or mouse.
2. Press the **Del** key.


3.11.11 Replacing Text

To replace an existing word in a document with a new word, follow these steps:


1. Double-click to select the word to be replaced.
2. Type the new word.

When you type a character in a Word document, it automatically replaces the *selection*. This will work whether you have selected a single character, word or multiple words or even one or more paragraphs.

3.11.12 Undoing and Redoing Changes

While working on a document, you may delete or move some text by mistake. However, if that happens or you make any unwanted changes, you can easily *undo* the changes. To use the undo command, press **Ctrl+Z** or click the Undo button on the Quick Access toolbar located at the top left of the Word window. The Undo button looks like .

You can use the undo operation multiple times to undo earlier changes. Undo can reverse all kinds of editing operation including delete, replace, move, typing, etc. To undo more than one operation in one go, click the down pointing arrow to the right of the Undo button to display the list of actions Word can undo and click an action in the list; Word will undo all actions up to clicked action.

You can even undo your undo operations by using the Redo command. To use the redo command, press Ctrl+Y keys or click , the Redo button on the Quick Access toolbar.

3.11.13 Pasting Text Using Clipboard

Word maintains a Clipboard that can hold up to 24 text or other types of copied items. Advanced users can selectively paste copied items from Clipboard.

- To display the Clipboard task pane, click the **dialog box launcher** button located at the bottom right of the **Clipboard** group on the **Home** tab.
- To paste an item from the Clipboard task pane, move the cursor (insertion point) at the desired location in the document and click the item in the Clipboard task pane. To paste all items, click the **Paste All** button.
- You may press the **Clear All** button to clear the Clipboard. To close the Clipboard task pane, click the **Close (X)** button in the top right.

3.11.14 Saving a Document with a New Name

After you started making changes in a document, if you decide to keep the old version too, you can save the modified version in a different document file.

- Use the **Save As** command in the **Backstage** view to get the **Save As** dialog box.
- Choose the filename and the folder to save the document into and click **Save**.

3.12 FORMATTING TEXT



Word allows you to format the text by applying various text styles, such as boldface, underline, italic, superscript, subscript, strike-through, etc. You can apply the commonly used styles by using the corresponding buttons on the Home tab of the Ribbon or by using the keyboard shortcut commands. To apply any style to any text, you need to perform two steps:

- ☐ Select the text that you want to format by using the keyboard or the mouse.
- ☐ Apply the necessary formatting command.

The Font group of the Ribbon shown in Fig. 3.15 contains buttons to apply common text formatting styles.

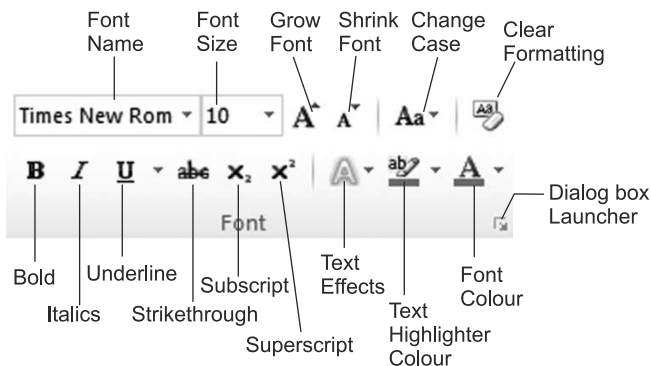
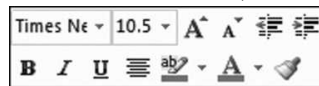




Fig. 3.15 Font group on the Ribbon

When you select text with mouse, e.g., double click a word, Word displays a faded mini formatting toolbar above the selection which becomes clearly visible when you move the mouse on the Mini toolbar. Word also displays the Mini toolbar when you right click the selected text. This toolbar, shown on the right, contains commonly used formatting tools. To apply a text formatting style on the selected text, you may use the Mini toolbar, the Ribbon or keyboard shortcut keys.




3.12.1 Applying the Bold Style

- To format the selected text in the bold style, press **Ctrl+B** or click , the bold button on the Ribbon or the Mini toolbar.
- If you need to remove the bold style, select the text and click . Basically, the Bold button toggles the bold style on the selected text.

3.12.2 Applying the Italic Style

- To display the selected text in the italic style, press **Ctrl+I** or click the Italic button, i.e. .

3.12.3 Applying the Underline Style

- To apply the underline style on the selected text, press **Ctrl+U** or click , the Underline button.

The Underline button applies a continuous underline to the selected text, including spaces. Word supports other underline styles too, such as double underline, dotted underline, dashed underline, wave underline, etc.

- To apply some other underline style, click the down pointing arrow on the side of the underline button on the Ribbon to display the available underline styles and click the desired underline style.

Note To remove a style, select the text and apply the same style again. For instance, clicking the Italic button removes the italic style if the text is formatted in the italic style.

3.12.4 Applying Multiple Styles

You can apply as many styles as you like to the selected text. For instance, you may display a word in bold as well as italic style.

3.12.5 Changing the Character Size

When you type text in a document, all characters are of a 'pre-defined' size. In Word, the character size (in fact height) is specified in *points*. (72 points are equal to 1 inch.) The typical point size used in Word is from 9 to 12. If you do not select a new point size, all characters that you type are of the default size. If you wish to know the point size in use in your document, look at the Font group on the Home tab. Word displays the size of the characters at the cursor position or the selected text in the Font size box on the Ribbon. For instance, in Fig. 3.14, the font size in use is 11. To change the font size for the selected text:

- Click the **Grow Font** button on the Font group or the Mini toolbar to select the next bigger font size. (See Fig. 3.15.)
- Click the **Shrink Font** button on the Font group or the Mini toolbar to select the next smaller font size.

- Click in the font size box and type the desired font size.
- If you want to choose the new size from a drop-down list, click the down-pointed arrow on the right of the font box to display the font size list box as shown in Fig. 3.16. Move the mouse pointer on a font size to preview its effect on the selected text. To change the font size for the selected text, click the desired font size number in the list box.

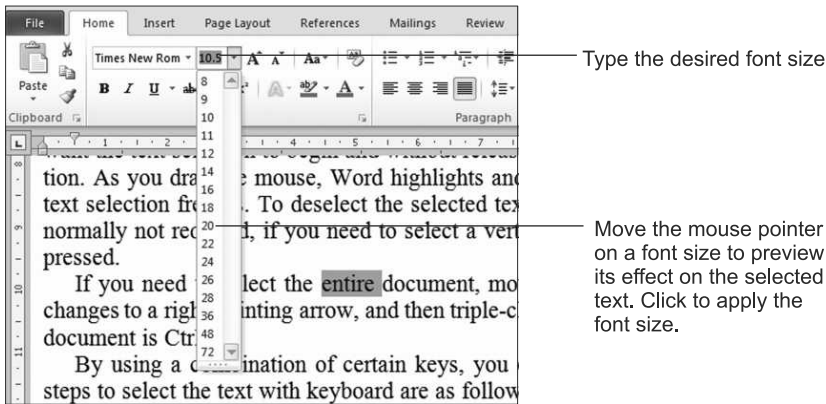


Fig. 3.16 Selecting font size

3.12.6 Changing Font

Font refers to the shape and style of characters. The same character can be printed in different shapes and styles. Each particular shape and style of the character set is given a font name, such as Times New Roman, Arial, Courier, Letter Gothic, etc. The default font depends on the template used to create the document. However, you can apply any font to any selected text, or even to the entire document.

Word displays the name of the current font in the Font name box. This box is located on the left side of the Font Size box on the Ribbon as well as the Mini toolbar. For instance, in Fig. 3.17, the Times New Roman font is in use.

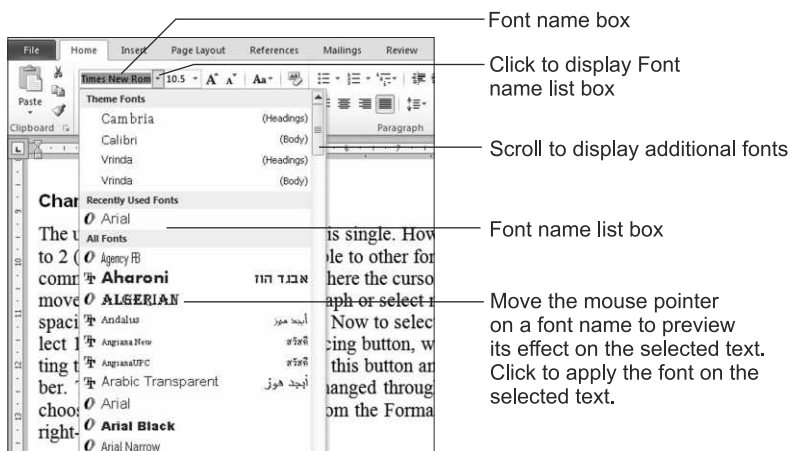


Fig. 3.17 Selecting a font


- To change the font for the existing text in a document, select the text and click the drop-down arrow on the right side of the Font name box. (See Fig. 3.17.)

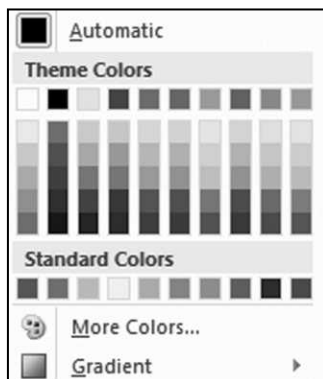
Word displays the list of available fonts in a Font name list box, as shown in Fig. 3.17. On your computer, the list that you will get may be different from that shown depending on the fonts installed on your PC. The list box can display only a few fonts; to see other fonts use the scroll bar displayed on the right side of the Font name list box. The top part of the Font name list box displays the recently used fonts. Then it displays all installed fonts in alphabetical order. When you move the mouse pointer on a font name, Word displays its preview on the selected text.

- To apply new font on the selected text, click the desired font in the Fonts list box.

3.12.7 Color



To display color, you must have a color monitor, and to print color, you must have a color printer or a color plotter. Even if you do not have a color printer, you can still define colors in your text. However, you should not use colors on your text if you plan to print the text on a 'black and white' printer, as the colored text may not print in good contrast.


- To change the color of the selected text, you may use **Font Color** button, which looks like . On clicking the **Font Color** button, Word applies the color of the thick underline on the button on selected text.
- To choose a different color, click the down pointing arrow on the right of the button, and Word displays a *Color Palette* to choose the color as shown below.



- To choose a color, click the corresponding color on the **Color Palette**. To display additional colors, click **More Colors**.

In addition to changing the text color, Word also enables you to highlight the text with any color. In other words, you can define a background color.

- To highlight text, click , the Text Highlight Color button, and Word changes the shape of the mouse pointer by attaching a highlighter pen.
- Now drag the mouse on the text to highlight the text. To return the cursor to the normal mode, click  again.

- To choose a different highlighter color, click the down pointing arrow on the side of  and choose the desired colour.


3.12.8 Text Effects

The Font group on the Home tab has several buttons to apply text effects, such as strikethrough, subscript and superscript. Examples of using these effects are shown here.

Strikethrough Draws a line through the selected text, e.g., ~~This text is printed in the strikethrough style.~~

Superscript Text printed in the superscript style is printed in reduced font size and slightly above the normal text, e.g., $(A+B)^2 = A^2 + B^2 + 2AB$

Subscript Text printed in the subscript style is printed in reduced font size and slightly below the normal text, e.g., in H_2O , '2' is printed in the subscript style.

Word has a Text Effects button () that you may use to apply fancy text effects, such as outline, shadow, reflection and glow. (Text Effects button is available only since Word 2010.) To apply these effects on the selected text, click the Text Effects button and Word displays the available text effects in a box, as shown here.



You can click the mouse on the samples shown in the upper part of the box to apply that text effect on the selected text. To have additional options, click Outline, Shadow, Reflection and Glow effect names links in the lower part of the box.

3.12.9 Font Dialog Box

Commonly used character formatting commands are available on the Ribbon and the Mini toolbar. However, for more character formatting options as well as an alternate way to access these options, you may use the Font dialog box.

- To open the Font dialog box, click the Dialog Box Launcher located at the bottom right corner of the Font group of the Ribbon. (See Fig. 3.15.) Figure 3.18 displays the Font dialog box.

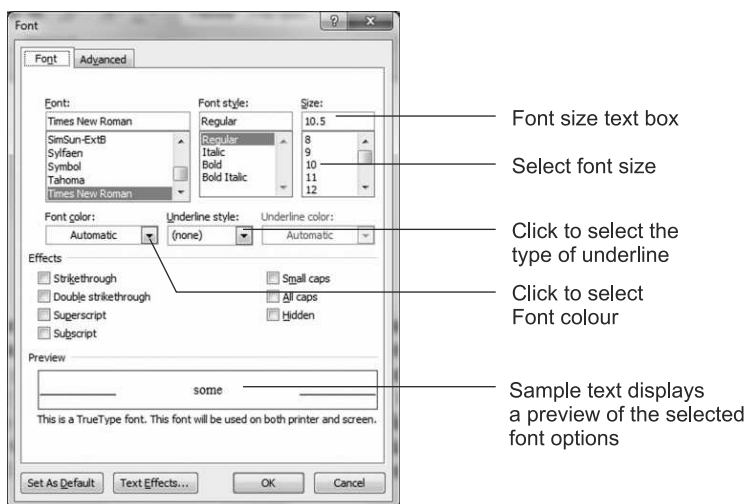


Fig. 3.18 Font dialog box

The upper part of the Font dialog box is used to select the font, font style, font size and font color. If you want to apply some special types of underlines, click the Underline Style box and choose the desired style. On choosing an option in the Font dialog box, Word displays its preview in the Preview box at the bottom of the box. Here are some of the underline styles not available on the Ribbon.

Word can underline text in several styles.
Word can underline text in several styles.
Word can underline text in several styles.


3.12.10 Effects

The Effect area of the Font dialog box has several check boxes to apply one or more combinations of the following effects on the text:

- Double Strikethrough** Draws a double line through the selected text, e.g., ~~This text is printed in the double strikethrough style.~~
- Shadow** As the name 'shadow' implies, it adds a shadow behind the text, e.g., **Shadow style.**
- Outline** In the outline style, Word displays an inner and outline border, e.g., **Outline style.**
- Emboss** The emboss style makes the text appear raised off the page, e.g., **Emboss style.**
- Engrave** This style makes the text appear as if pressed into the page, e.g., **Engrave style.**
- Small Caps** On selecting this option, all lower case characters are converted to upper case. However, Word also reduces the font size for all lower case characters converted to 'SMALL CAPS'.

All Caps	Displays all lower case letters as upper case. For example, 'Computer Society' formatted in the All Caps style will look like —COMPUTER SOCIETY.
Hidden	As the name 'hidden' implies, any text formatted in the hidden style is not displayed or printed. This style is generally not used in normal documents.


The Advanced tab of the Font dialog box has controls to precisely control the character spacing, position, scaling and kerning. If you want to use the modified settings in the Font dialog box as the default font for the current document or all new documents based on the current template, click the **Set As Default** button.

Clear Formatting To clear formatting on the selected text, click the Clear Formatting button () located in the Font group on the Home tab.

Note The Clear Formatting command does not remove highlighting from the text.

3.13 COPY TEXT FORMATTING USING FORMAT PAINTER



Format Painter can help you save time by quickly applying the text formatting from one portion of your document to another. To accomplish this, Word provides the Format Painter button () in the Clipboard group as well as the Mini toolbar.

- Select text in a document that contains the formatting you want to copy.
- Click the Format Painter button on the Mini toolbar or the Clipboard group on the Ribbon. Word changes the mouse pointer by attaching a paint brush.
- Drag the mouse on the text to which you want to apply the formatting copied in the previous step.

3.14 PARAGRAPH ALIGNMENT



Word can align paragraphs in four ways—left-aligned, centered, right-aligned and justified (also called right-justified). Figure 3.19 illustrates paragraphs aligned in these styles. As shown in Fig. 3.19, a left-aligned paragraph is aligned on the left side, whereas the right-aligned paragraph is aligned on the right side. When you justify (right-justify) a paragraph, Word increases the spacing between words of all lines of the paragraph, except the last line such that both sides of the paragraph are aligned. When you center a paragraph, Word increases the spacing on the left and right side of each line of the paragraph so that each line appears in the centre of width of the print area of the page. Though you can center a paragraph containing several lines, usually a centered paragraph contains only a single line, e.g., title of a document or address. In the same way, usually the right-aligned paragraph contains a single line. Figure 3.20 shows a letter that makes use of paragraphs aligned in different ways.

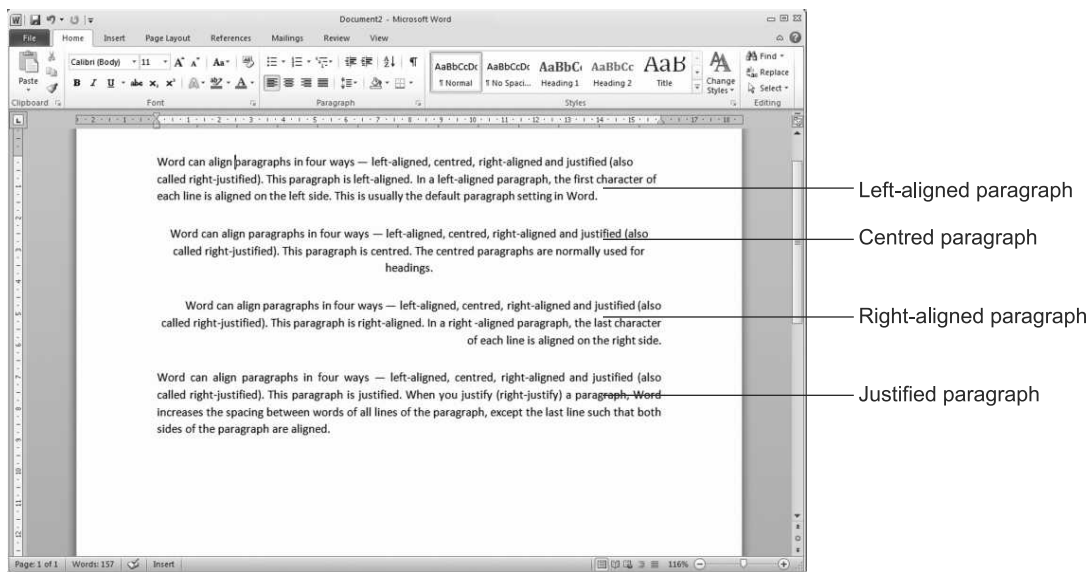


Fig. 3.19 Paragraph alignment

Changing the alignment of a paragraph is very simple with the paragraph alignment buttons located in the Paragraph group on the Ribbon as shown in Fig. 3.20. There are four buttons to align a paragraph in four different ways. Besides using these buttons to change the alignment of a paragraph, Word also uses these buttons to display the alignment of the current paragraph where the cursor is located. Notice that in Fig. 3.20, the Justify button is selected or highlighted, which indicates that the current paragraph is justified.

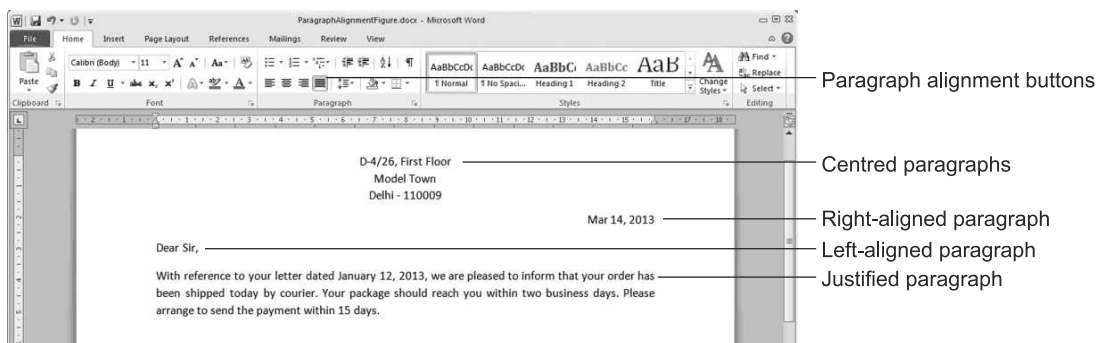


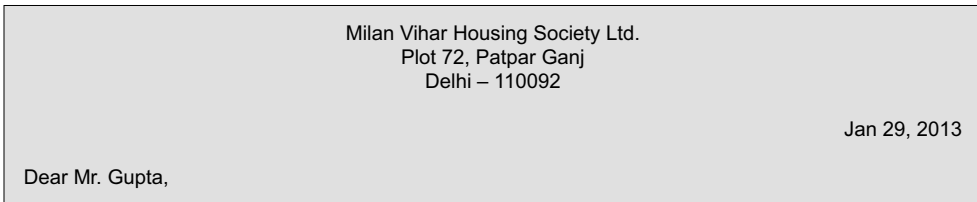
Fig. 3.20 Using different types of paragraph alignment in a letter


- To change the alignment of a paragraph, click anywhere in the paragraph and then click the appropriate paragraph alignment button.

Note Usually, the paragraph characteristics you get for the new paragraph on pressing the Enter key are the same as that for the current paragraph. However, it is possible to specify different characteristics for the next paragraph if you use *paragraph styles*.

3.14.1 Click and Type

Click and Type is very interesting and useful feature that automatically does paragraph alignment for you. While the paragraph alignment buttons are useful to change the alignment of existing paragraph, **Click and Type** can help you to quickly align paragraphs as you type text or tables in a document, thus speedup creation of a document. With this feature, all you need to do is double click in an empty area of the document and start typing and Word automatically formats the paragraph for you. Let us assume that you want to create the following letter:



- To use the **Click and Type** feature, ensure that you are working in the **Print Layout** view. If required, click the **Print Layout** view button located on the right side of the status bar.
- Now create a new document and move the mouse pointer in the centre of the line where you want to type the text until the mouse pointer changes to . Then double click the mouse.

Word automatically formats the line at the cursor as centered. Now you can begin typing text in a centered line. Similarly, when you want to type a left-aligned paragraph, double click the cursor near the left side of the line and begin typing. In the same way, to type a right-aligned paragraph, double click near the right side of the line and begin typing.

- If **Click and Type** does not work, make sure that you are working in the Print Layout view and this option is enabled, as illustrated in Fig. 3.21. To open the Word Options dialog box, click the **File** tab, click **Options** and then click **Advanced**.



Fig. 3.21 Enabling Click and Type in the Word Options dialog box

Note Click and Type works only while typing new text and cannot be used to change the alignment of existing text in a document.







3.15 USING BULLETS AND NUMBERING IN PARAGRAPHS

Sometimes we need to create bulleted or numbered paragraphs. Consider that you need to create a document with the following text:

Mark the following statements as true or false:

- You can change the line spacing to single or double.
- The Paragraph dialog box is opened by pressing Ctrl+P.
- The Increase Indent button is located on the Home tab.
- Press Ctrl+5 to select 1.5 lines spacing.

To help you easily create the bulleted paragraphs, Word provides the convenient Bullet button () on the Home tab of the Ribbon in the Paragraph group.

- Click  to apply the bullet paragraph style to the current paragraph or a blank line. After typing text in the bulleted paragraph, when you press **Enter**, Word automatically applies the bulleted style to the next paragraph.
- In this way, you can continue to type the bulleted list. When you reach the end of the bulleted list and do not need the bulleted paragraph, press **Enter** on the last blank bulleted paragraph to ask Word to convert it to a regular paragraph.
- If you need to convert an existing paragraph or paragraphs into bulleted paragraphs, select the paragraph(s) and click . Similarly, to remove bullets, select paragraph(s) and click .

When you click the Bullet button, Word applies the last used bullet symbol. The Word's bullet library contains several symbols and you can choose any symbol for your bulleted paragraph. To choose a different bullet symbol, click the down pointing arrow on the right side of the Bullet button and Word displays a dialog box to choose the bullet symbol as shown in Fig. 3.22. Click the desired symbol and Word applies that symbol as the bullet to the current or selected paragraphs. Advanced users can define a new bullet symbol by clicking the Define New Bullet link at the bottom of the box.

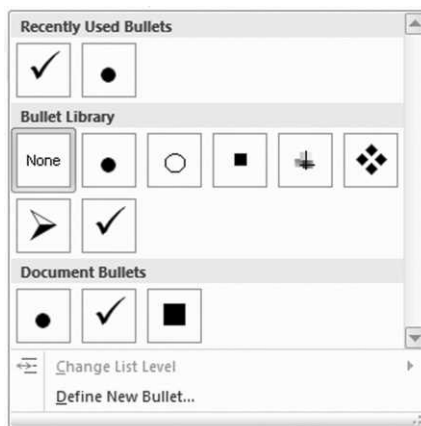


Fig. 3.22 Choosing the bullets symbol

In the same way, clicking the Numbering button, located next to the Bullet button on the Ribbon creates numbered paragraphs. When you insert a new paragraph by pressing the Enter key in the numbered paragraphs, Word automatically renumbers the paragraphs. By default, Word numbers paragraphs as 1, 2, 3, and so on, however, it can also create a numbered list with other numbering styles, such as

- 1), 2), 3), ...
 - I., II., III., ..
 - A., B., C., ... or A), B), C), ... or a), b), c), ...
- If you wish to change the numbering style, select the numbered paragraphs and click the down pointing arrow on the right side of the **Numbering** button to display the Numbering options, as shown in Fig. 3.23.



Fig. 3.23 Choosing the numbering symbol


3.16 FORMATTING PARAGRAPHS



To give a professional look to your document, you may format the paragraphs in several ways by applying different paragraph formatting commands.

3.16.1 Changing Line Spacing

The usual line spacing in paragraphs is single. However, Word allows you to change the line spacing to 2 (double), 1.15, 1.5, 2, 2.5, 3, etc. As applicable to other formatting commands, Word applies the line spacing command to the current paragraph (where the cursor is located) or the selected paragraphs. To change line spacing:

- Move the cursor to the desired paragraph or select multiple paragraphs, if you want to change the line spacing for more than one paragraph.
- Now click the **Line and Paragraph Spacing** button () in the **Paragraph** group on the **Home** tab to display the line spacing options and click the desired option.

If you prefer to use the keyboard shortcuts for changing line spacing, press **Ctrl+2** to select double line spacing or **Ctrl+5** to select 1.5 line spacing.

3.16.2 Changing Paragraph Indents (Margins)

Consider the second paragraph shown in Fig. 3.24. Notice that the left and right sides of the paragraph are indented. In other words, the paragraph uses margins on both sides.

- To increase or decrease left indent, you may click the corresponding buttons on the Paragraph group on the Ribbon, as shown in Fig. 3.24. With each click of the Increase/Decrease Indent button, Word changes the indent by one step, which is usually 0.5 inch.

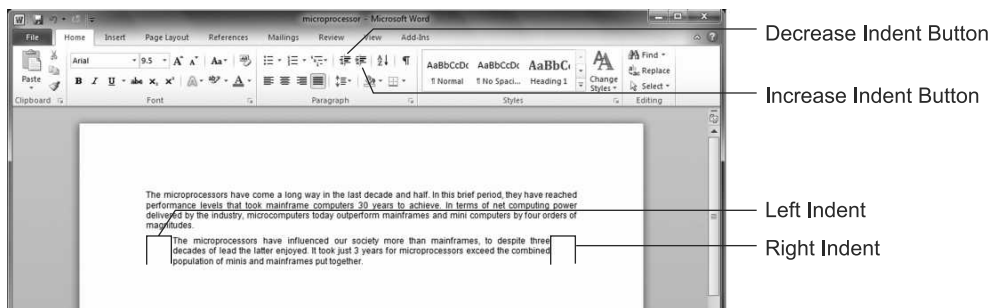


Fig. 3.24 Left and right indented paragraph

- If you want to add right indent to a paragraph, click anywhere in that paragraph, click the **Paragraph Dialog Box Launcher** (¶) located at the bottom right corner of the Paragraph group and Word displays the Paragraph dialog box shown in Fig. 3.25.

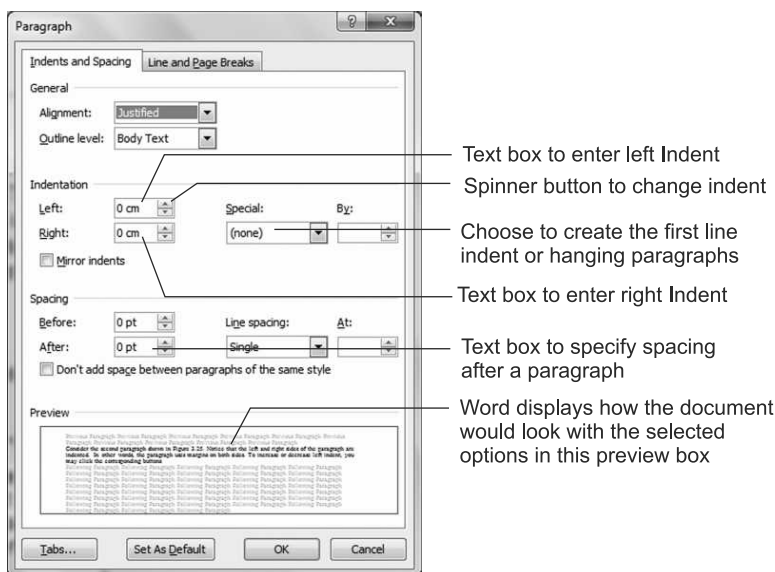


Fig. 3.25 Paragraph dialog box


- As illustrated in Fig. 3.25, to create the right indent, enter the desired indent value in **Right Indentation** box. You may also click the spinner box to change the indent. The preview box displays the effect of your selections.

3.16.3 Changing the Unit of Measurement


Notice that the unit of measurement in the Paragraph dialog box in Fig. 3.25 is cm (centimeters). Word supports several units of measurements, such as inches, points, centimeters, millimeters and picas. Let us change the unit of measurements to inches:

- Open the **Word Options** dialog box from the **Backstage** view.
- Click **Advanced** in the **Word Options** dialog box (see Fig. 3.21) and scroll to the **Display** section.
- Click the dropdown list against “Show measurements in units of” and click the **Inches** option.

3.16.4 Changing Spacing Before and After a Paragraph

- To add spacing before or after the selected paragraphs, click the **Line and Paragraph Spacing** button () in the **Paragraph** group and click **Add Space Before Paragraph** or **Add Space After Paragraph**.

Word allows to precisely defining spacing before and after a paragraph. For instance, you can specify the spacing after a paragraph to be 6 points or 0.2 inches. Remember that 72 points are equal to 1 inch.

- Click the **Paragraph dialog box Launcher** () located at the bottom right corner of the Paragraph group to display the Paragraph dialog box. You may also open the Paragraph dialog box by choosing the **Paragraph** command from the **Context** menu that you can display by right clicking the mouse.
- Enter or choose the desired spacing in the **Spacing Before** or **Spacing After** text box in the Paragraph dialog box, as shown in Fig. 3.25.

3.16.5 Using the First Line Indent

Sometimes, you like to indent the first line of the paragraph, i.e., you want to start the first line of the paragraph after leaving some gap, as show in the following document:

The microprocessors have come a long way in the last decade and half. In this brief period, they have reached performance levels that took mainframe computers 30 years to achieve. In terms of net computing power delivered by the industry, microcomputers today outperform mainframes and mini computers by four orders of magnitudes.

The microprocessors have influenced our society more than mainframes, to despite three decades of lead the latter enjoyed. It took just three years for microprocessors exceed the combined population of minis and mainframes put together.

To create or change the first line indent, do not use the spacebar or the Tab key; instead use the Paragraph dialog box. You need to perform the following steps:

1. Select the paragraph(s) that you want to format.
2. Open the Paragraph dialog box.
3. Click the drop-down arrow on the right side of the Special box. (See Fig. 3.25.)
4. Select *First Line* from the list of options displayed by Word.

5. Select or type the amount of indent required for the first line. The default value of the indent is 0.5" or 2.53 cm.
6. Press the **Enter** key or click **OK**.

3.16.6 Creating Hanging Paragraph

Look at the paragraphs shown in the following example. These types of paragraphs where the second and subsequent lines start after some indent are called *hanging paragraphs*.

TREE A useful DOS command that graphically displays the path of each directory and subdirectory on the specified drive. Optionally, it can also list files in each directory.

MOVE The MOVE command is used to move files from one directory to another. This command is also used to rename directories.

To create a hanging paragraph similar to the first sample paragraph, follow the steps given below.

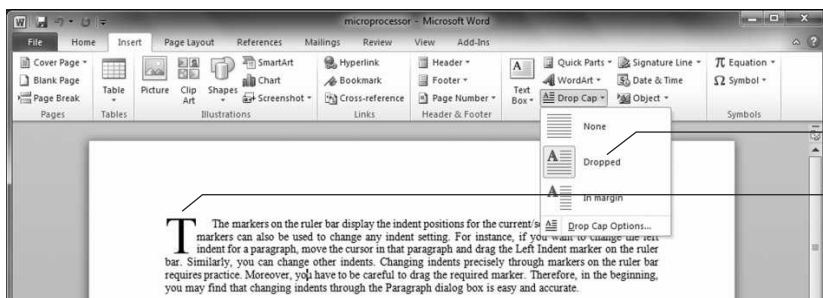
- Type **TREE** and then press the **Tab** key to move the cursor to the next tab stop position. Then type the remaining text in the usual way.
- Ensure that the cursor is positioned in the paragraph and open the Paragraph dialog box.
- Click the drop-down arrow on the right side of the **Special** box. (See Fig. 3.25.) Choose the **Hanging** option in the **Special** box.

Word automatically fills **0.5"** in the **By spinner** box located on the right side of the **Special** box. The default value is okay for the sample paragraph.

- Press the **Enter** key or click the **OK** button, and Word creates hanging paragraphs similar to that shown in the sample.

3.16.7 Using the Drop Cap Effect

Look at the paragraph shown in Figure 3.26. In this paragraph, the first character of the paragraph is much bigger than rest of the text. This effect is called the *Drop Cap* effect. There are two drop cap effects besides the None effect. The paragraph shown in Fig. 3.26 uses the *Dropped* effect. The *In Margin* effect displays the drop cap character in the page margin.



Click to choose the drop cap effect

The Drop cap effect on a paragraph

Fig. 3.26 Using the drop-cap effect on a paragraph

- To use the Drop Cap effect in a paragraph, click on the paragraph, click the **Drop Cap** button on the **Insert** Tab and choose the desired drop cap effect, as illustrated in Fig. 3.26.

3.16.8 Controlling Paragraph Indents through Ruler Bar

Word displays the left, right, hanging and first line indent positions for the current or selected paragraph(s) in the ruler bar, as illustrated below. (If you do not see the ruler bar at the top of your document area, open the View tab and click Ruler in the Show group.)



The markers on the ruler bar display the indent positions for the current/selected paragraph(s). These markers can also be used to change any indent setting. For instance, if you want to change the left indent for a paragraph, move the cursor in that paragraph and drag the Left Indent marker on the ruler bar. Similarly, you can change other indents. Changing indents precisely through markers on the ruler bar requires practice and you have to be careful to drag the required marker. Therefore, in the beginning, you may find that changing indents through the Paragraph dialog box is easy and accurate.

3.17 USING TABS



Consider the sample shown in Fig. 3.27. The figure contains a list. To type such a list, do not use the spacebar to align columns; instead, you should use tabs. When you start Word, it automatically sets tabs after every 0.5", or 1.27 cm if you are using centimeters as unit of measurement. That is, the tabs are set at 0.5", 1.0", 1.5", 2.0", 2.5", and so on. Therefore, you just need to press the Tab key to move the cursor to next 0.5" position.

Pooja Chopra	Assistant	Sales
Rajan Kumar	Engineer	Marketing
Sham Sunder	Engineer	Sales

Fig. 3.27 *Employees List*

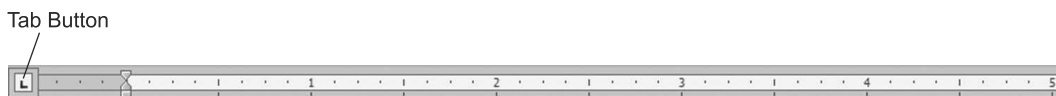
- To create a list similar to Fig. 3.27, type **Pooja Chopra**, the first name in the list and press **Tab** to move the cursor to the next tab stop position.
- Next, type **Assistant** and press **Tab** to move the cursor to the next tab stop position. Type **Sales** and press **Enter** to move the cursor to the next line. In the same way, type rest of the list.


In professional documents, you may like to position columns of your list at precise locations rather than using the default tab stop position. For instance, you may like the second column to start at 1.8 inches from the first column and the third column from 2.7 inches. Besides, sometimes, instead of left-aligned columns as in Fig. 3.27, we may require centred or right-aligned columns. Figure 3.28 displays various types of tabs supported in Word.

Left Aligned Column	Bar Tab	Right Aligned Column	Centred Column	Decimal Aligned Column
List of Employees				
Name	Date of Birth	Designation	Department	Bonus
Pooja Chopra	10/01/65	Assistant	Sales	3423.50
Rajan Kumar	12/10/68	Engineer	Marketing	456.67
Sudha Verma	05/12/74	Clerk	Administration	12001.45


Fig. 3.28 Various types of Tabs


In a Word document, tabs are defined and assigned for the current or selected paragraphs. Usually on pressing the Enter key, the current tab settings are carried over to the next paragraph. To define tabs, you may use the Ruler bar or the Tabs dialog box. If you do not see the ruler bar at the top of your document area, open the **View** tab and click **Ruler** in the **Show** group. Your ruler bar should be similar to the following ruler bar:




The left edge of the ruler bar displays a Tab button. At present, this button looks like . The Tab button is used to select the type of tab you want to define using the ruler bar and mouse. As you know, you can use five types of tabs in your document. To change the type of tab, click the Tab button. Each time you click the Tab button, Word displays the next tab type. By clicking the Tab button on the ruler bar, you get the following tab types.

 Left-aligned (Flush-left/Standard) Tab

 Right-aligned Tab

 Centre-aligned Tab

 Decimal Tab

 Bar Tab

- To define a tab for the current paragraph, click the mouse on the **Tab** button to change the tab type, if required.
- Move the mouse pointer on the ruler bar at the desired position where you want to set the tab and click the mouse. Word displays a tab symbol at the clicked position to indicate that a tab has been setup there.
- If the tab position requires adjustment, drag the tab symbol to the new position. To delete a tab, just drag the tab symbol off the ruler bar.

3.17.1 Defining Tabs using the Tabs Dialog Box

The Tabs dialog box allows you to define or clear tabs at precise positions for the current or selected paragraphs.

- Click the **Home** tab, if required; click the **Dialog Box Launcher** located in the lower right corner of the **Paragraph** group to display the Paragraph dialog box.
- Click the **Tabs** button in the Paragraph dialog box to display the Tabs dialog box shown in Fig. 3.29.

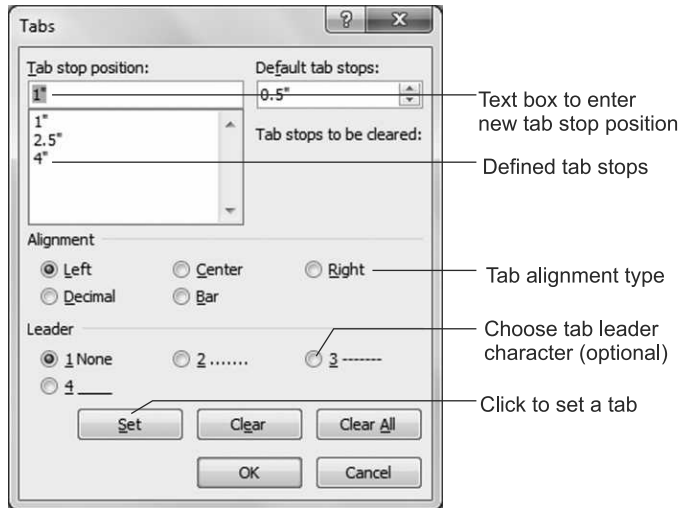


Fig. 3.29 Tabs dialog box

- To set a tab, type the desired tab stop position in the **Tab stop position** box, click the tab type (alignment) and then click **Set**.

To clear tabs, you may use the Clear or Clear All button. The *leader* character is used to fill the space to the tab stop position with a character instead of leaving the blank space, as shown in the following list:

Orange	25
Banana	1,234
Apple	45

3.18 CREATING TABLES



Look at the table shown in Fig. 3.30. You can easily create such a table with Word. The Tables facility in Word is very powerful and flexible. Your table can have any number of rows or columns. You can type any length of text in different cells of the table. Word automatically resizes the table as required as you enter text in the table. The text entered in the table is formatted by using the usual commands. For instance, you can select the text in the table and press Ctrl+B to make it bold. In the same way, you

can align text in the table by using the Paragraph dialog box or by using the Formatting buttons in the Paragraph group on the Home tab.

SN	Name	Address	Marks
1	Parul Verma	G-236, Anand Vihar, Delhi - 110092	534
2	Deepali Bhaskar	C-2/B, Moti Nagar, New Delhi - 110015	567
3	Mohan Swamy	Hydevale Cottage, Annadale Road, Shimla	356
4	Neeta Lakshmi	1890, Sector 27-B, Chandigarh	489

Fig. 3.30 Table in a document

An easy way to insert a table in a document is by using the Table button on the Insert tab. This button allows you to create a table with specified number of rows and columns that you want to have in your table.

- Click in the document where you want to insert the table.
- Click the **Insert** tab and then click the **Table** button, and Word displays a table grid as shown in Fig. 3.31.

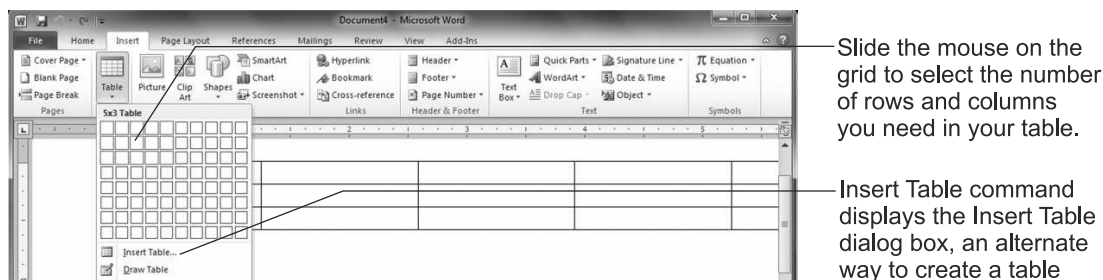


Fig. 3.31 Inserting a table in a document

- Slide the mouse on the squares in the grid to select the number of columns and rows you need in your table and Word displays the preview of the table. After you have selected the desired number of rows and columns, to create the table, click the mouse on the grid.

Figure 3.32 displays a table created using the Table button. Notice that *Table Tools* appear on the Ribbon. Word has several built-in table styles and you can choose these by clicking the corresponding button in the Table Styles group. You can resize a row/column by dragging the row/column lines or the corresponding pointers on rulers. Entering text in a table is simple.

- Click in any cell and enter text in the usual way.
- To move to the next cell, use the Tab key or click the mouse in the desired cell. Additional formatting commands are available in Table Tools.

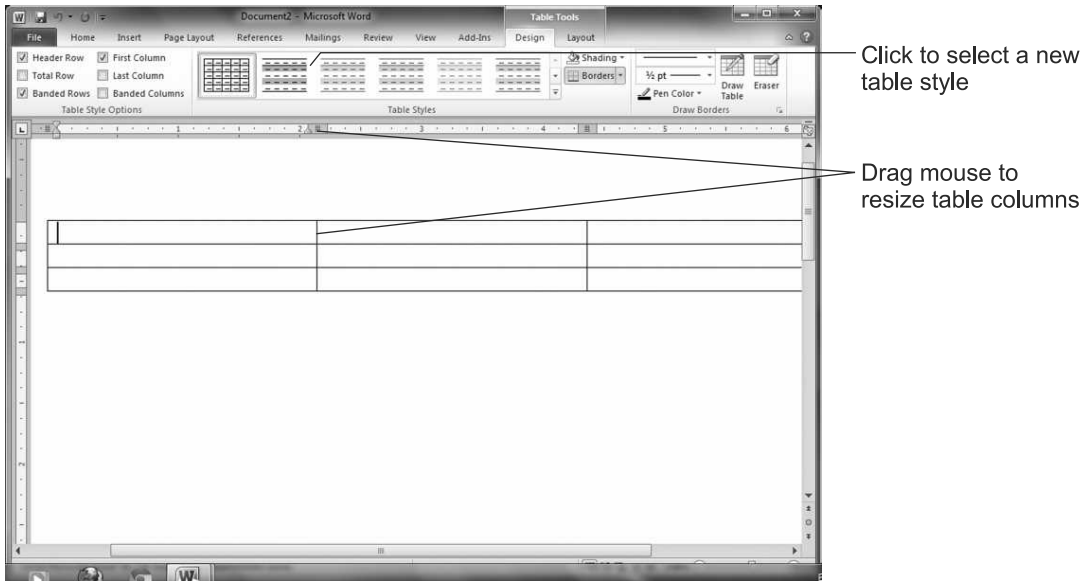


Fig. 3.32 An empty table inserted in a Word document

You can modify an existing table with ease. For instance, you can delete or insert row(s) or column(s) in a table. When you right click the mouse while the cursor is positioned in the table, the context menu displays options to select, delete and insert cells, rows and columns. The corresponding buttons are also available on the Layout tab of Table Tools shown in Fig. 3.33. Besides the layout tools, you would find the Formula button helpful. This button is used to perform simple calculation, such as sum, average and count on the table data. Figure 3.33 displays the sum function being entered in a cell to calculate the column total.

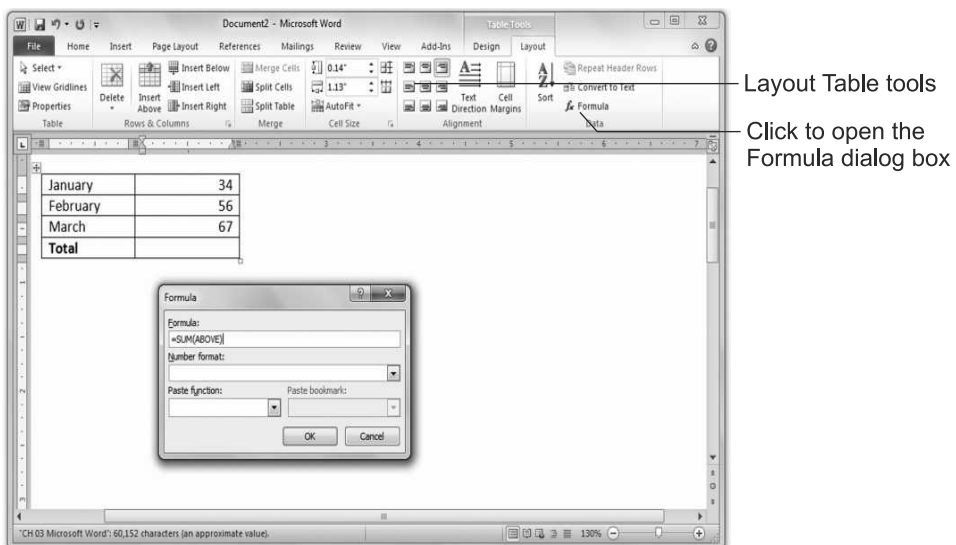


Fig. 3.33 Inserting a formula in a table cell to calculate total



3.19 PAGE SETUP

To give a professional look to your documents, Word supports several commands on the Page Setup tab. For instance, you can define the page size, margins (top, bottom, left, right, etc.), orientation (portrait or landscape), etc., for your document. Before learning how to set-up the page, have a look at Fig. 3.34 that describes the various margins we can control through Page Setup.

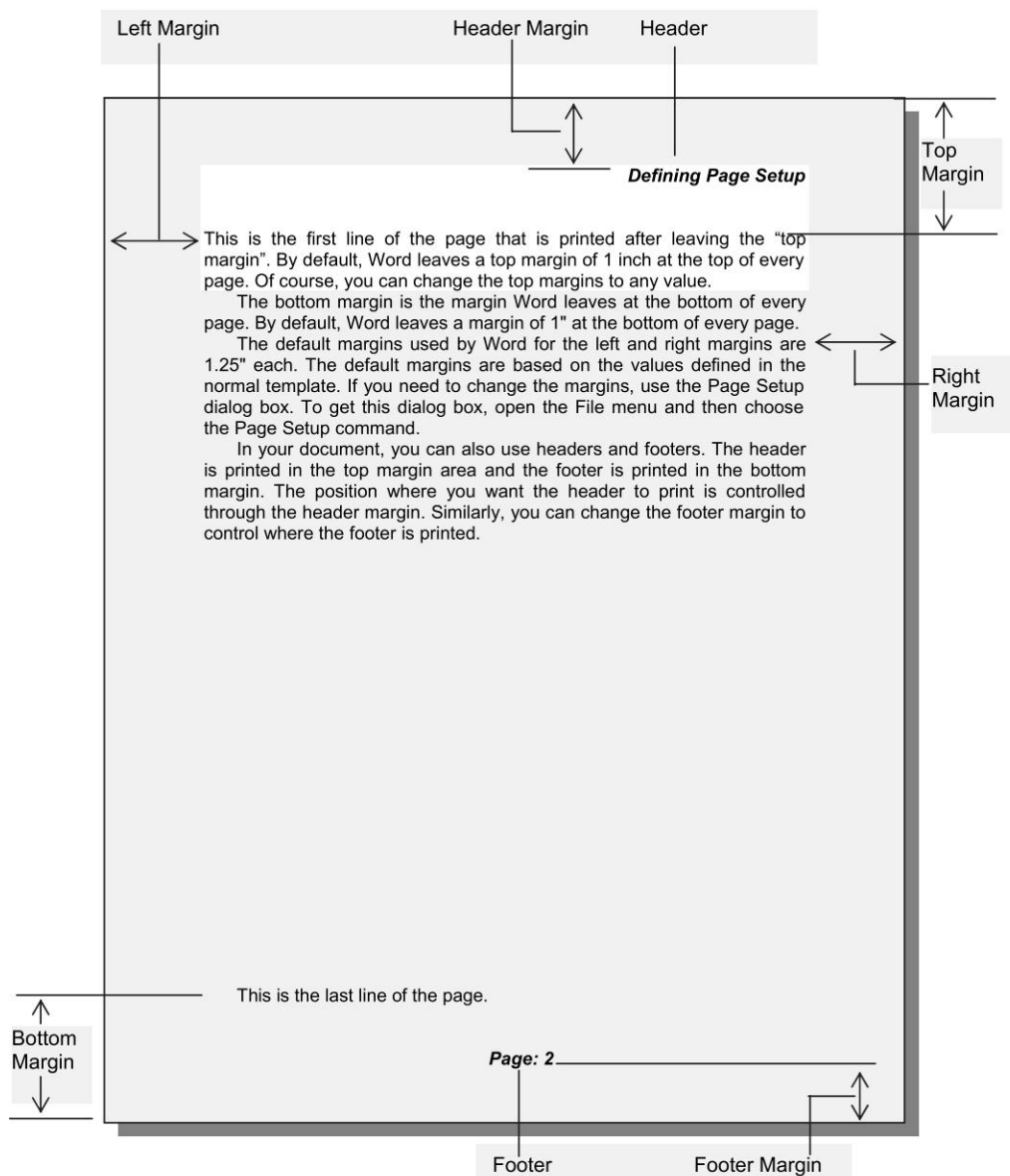


Fig. 3.34 Page setup

3.19.1 Changing Page Size and Margins

- To change margins, click the **Page Setup** tab and then click the **Margins** button in the **Page Setup** group to display the Margins gallery as shown in Fig. 3.35. If the margins that you want to use are available in the Margins gallery, click them.

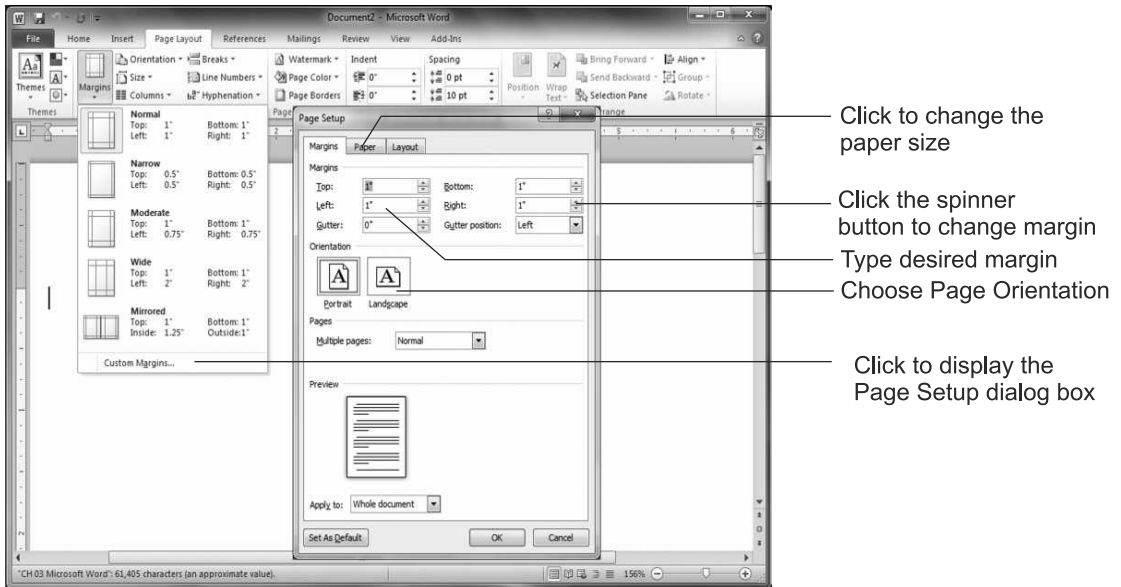


Fig. 3.35 *Page Setup dialog box*

- If you want to use custom margins, click **Custom Margins** to display the Page Setup dialog box shown in Fig. 3.35.
- The dialog box displays the current values of the various margins for the document. To change any margin, either directly type the desired margin in the corresponding margin box or use the corresponding spinner button to change the margin. Click the arrow buttons to increase or decrease the margin in predefined steps, usually by 0.1”.
- If you want to create a wide document, click the **Orientation** button in the Page Setup group and then click **Landscape**. Alternatively, click **Landscape** in the Page Setup dialog box.
- If you want to use header and footer in your document and want to control their position, choose the **Layout** tab in the Page Setup dialog box.
- If you want to print the document on a non-default paper, choose the **Paper** tab in the Page Setup box and select the desired paper size. You may also use the **Size** button in the Page Layout group to choose the page size.

3.20 FINDING TEXT (Ctrl+F)



Word can search for specific word(s) in a document being edited. The main use of this command is to position the cursor at a specific word for the purpose of editing.

- To find text in a document, click the **Find** button in the Editing group on the **Home** tab and the Navigation pane appears, as shown in Fig. 3.36. Alternatively, press **Ctrl+F**, the shortcut keys for the Find command.

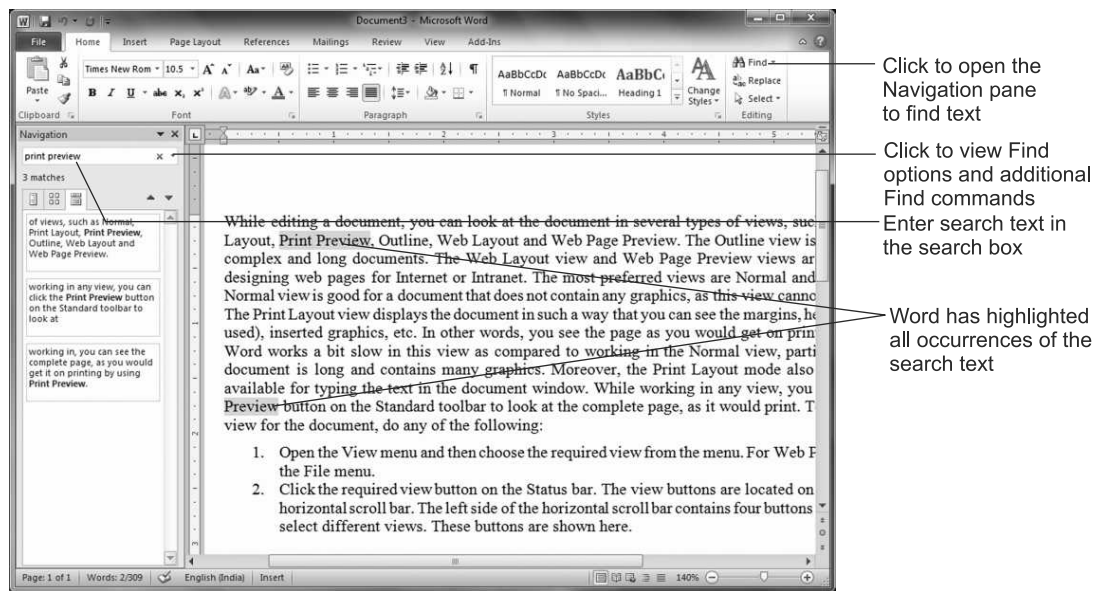


Fig. 3.36 Finding text

- To search for text, type it in the **Search** box in the Navigation pane, and Word displays the search results in the Navigation pane and highlights it in the document, as shown in Fig. 3.36.

The Find command does not restrict you to finding only one complete word. You can search for a partial word, e.g., *know* in *Knowledge* or multiple words, e.g., *Faculty of Arts*. The Find command also has some options to precisely control the find operation. To view these options, click the arrow button on the right of the search box (see Fig. 3.36) and click **Options**. Figure 3.37 displays the options you can use with Find.

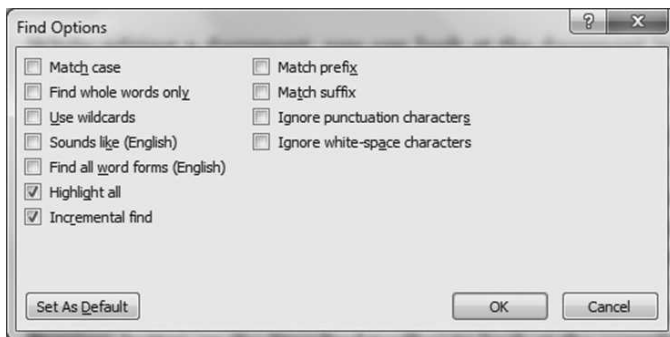


Fig. 3.37 Find Options dialog box

While searching, Word does not care about the case of the letters. For instance, if you ask it to locate 'Knowledge', it will find *Knowledge*, *knowledge* as well as *KNOWLEDGE*. However, if you do not want Word to find *knowledge* when you ask it to find *Knowledge*, check (select) the **Match case** check box. And, if you want Word not to search for partial words, select the **Find whole words only** check box. The **Sounds Like** check box when selected in the Find and Replace dialog box can help you to locate word(s) that sound similar. For instance, if you ask Word to find *Geta* with the Sounds Like check box selected, Word will find *Geta*, *Gita* as well as *Geeta*. For advanced search, you may experiment with other search options.

3.21 REPLACING TEXT



The Replace Command is used to find the *search text* and replace it with the *specified text*, e.g., you may use it to replace *New Delhi* with *Bhopal* in an open document.

- To use the Replace command, click **Replace** in the Editing group on the **Home** tab, or press **Ctrl+H** and Word displays the Find and Replace dialog box shown in Fig. 3.38.

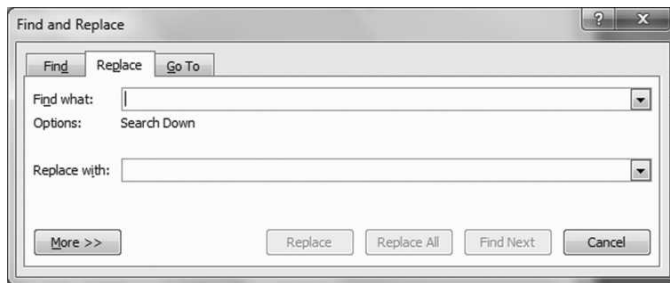


Fig. 3.38 The Replace tab of Find and Replace dialog box

- To perform a replace operation, enter the required text in the **Find What** and **Replace With** text boxes and click the **Find Next** button. If Word locates the specified search text, it highlights it in document. Now you have the following options:
 - Click the **Replace** button if you want Word to replace the highlighted text (New Delhi) with the replacement text (Bhopal) and want Word to find the next occurrence of New Delhi.
 - Click **Replace All** if you want New Delhi to be replaced with Bhopal throughout the document in one stroke.
 - Click **Find Next** if you *do not* want to replace the text at the present location; however, want Word to find the next occurrence of New Delhi.
 - Click **Cancel** if you *do not* want to replace the text at the present location and want to close the Find and Replace dialog box.
- Replace also supports options similar to the Find options discussed in the previous section. To display these options, click **More** in the Find and Replace dialog box.


Tip If you replace the wrong text my mistake, click the **Undo** button on the Quick Access toolbar or press **Ctrl+Z** to undo the replace operation.



3.22 CHECKING SPELLING AND GRAMMAR

Word comes equipped with a very useful spelling and grammar checking and correction tool that can help you to produce error-free documents. Word contains a powerful dictionary that includes nearly all commonly used words. In addition to the built-in dictionary, you can also use a *custom* dictionary to store words not available in the Word dictionary, such as names of persons, cities, technical terms, etc.

Depending on the selected options, Word can automatically check spellings and grammar while you type your document. When this feature is on, Word marks words that it cannot find in its dictionaries with red wavy underline. If the online grammar checking is enabled, it marks grammatical errors with green wavy underline.

- To manually start Spelling and Grammar checking, press **F7** or  on the Review tab. When it finds a spelling error, it displays the Spelling and Grammar dialog box as shown in Fig. 3.39.

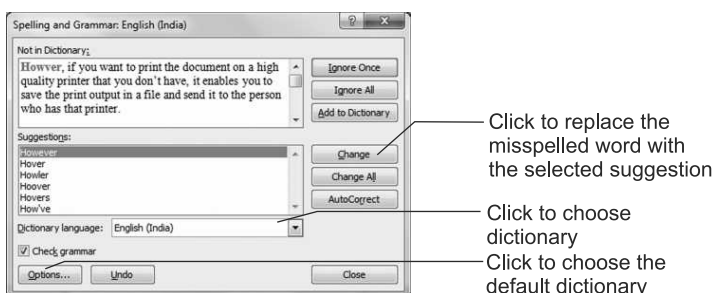


Fig. 3.39 Spelling and Grammar dialog box

When Word finds a word in the document that it cannot find in its dictionaries, it highlights that word in the Spelling and Grammar dialog box. If possible, it also offers some suggestions, e.g., in Fig. 3.39, it is offering a suggestion for the misspelled word “Howver”.

- You can choose any of the suggestion and click the **Change** button to replace the misspelled word with the selected suggestion. On clicking **Change All**, Word replaces the misspelled word throughout the document.
- If you want Word to remember this correction and automatically correct the word should you type this misspelled word again, click the **AutoCorrect** button.
- When your document contains names of persons, cities, etc., or technical terms, you may click the **Ignore** button to ask Word to ignore the word and continue checking the spelling. If you frequently use a name or technical term in your documents, you may add it to your custom dictionary by clicking the **Add to Dictionary** button.

If the Grammar checking option is not disabled in your setup of Word, it also checks grammar while checking spellings, and offers suitable suggestions. Word comes equipped with numerous dictionaries for various languages. Even for the same language, several dictionaries are available. For instance, for English, Word has dictionaries for English India, English UK, English USA, and so on.

- If you want to change the default dictionary, click the **Options** button as illustrated in Fig. 3.39. Word does support proofing tools for Hindi, English, Gujarati, Kannada, Marathi, Punjabi, Tamil, Telugu, and Urdu, however, you need to buy it separately.

3.22.1 Checking Spelling and Grammar while Typing

Word can check spelling and grammar as you type. Use the Proofing sections of the Word Options dialog box to control these options.

- Click the **File** tab to open the backstage view and click **Options** to open the Word Options dialog box.
- On the Word Options dialog box, click **Proofing**. To check spelling as you type, click **Check spelling as you type**, as illustrated in Fig. 3.40. Similarly, to ask Word to mark the grammar errors, as you type, check **Mark grammar errors as you type**.

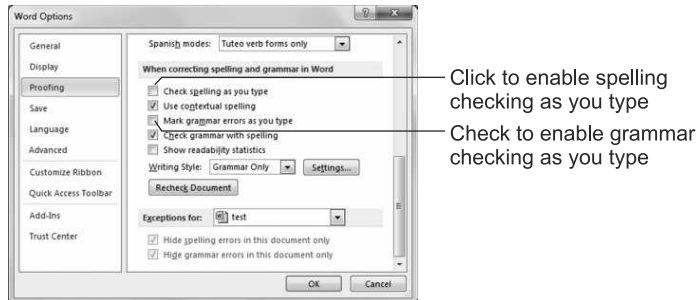


Fig. 3.40 Controlling Spelling and Grammar options

The dialog box also contains check boxes to control other spelling and grammar options, e.g., to ignore words typed in all uppercase letters, ignore words containing numbers, etc.

After you have enabled the 'Check Spelling as you type' option, if you type a misspelled word, Word marks it with a red wavy underline. On right clicking the misspelled word, it may offer suggestions in the context menu as shown in Fig. 3.41. To accept a suggestion, click the desired word in the menu.

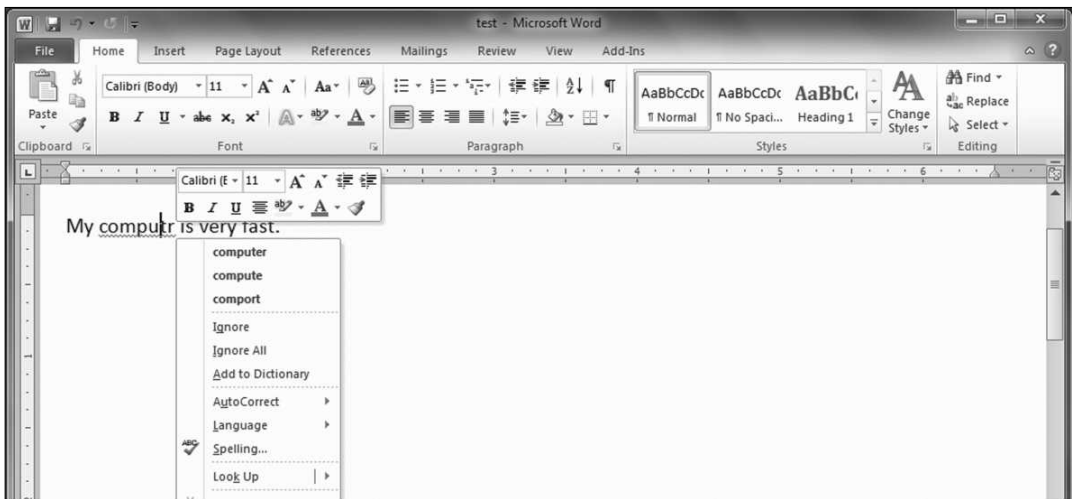
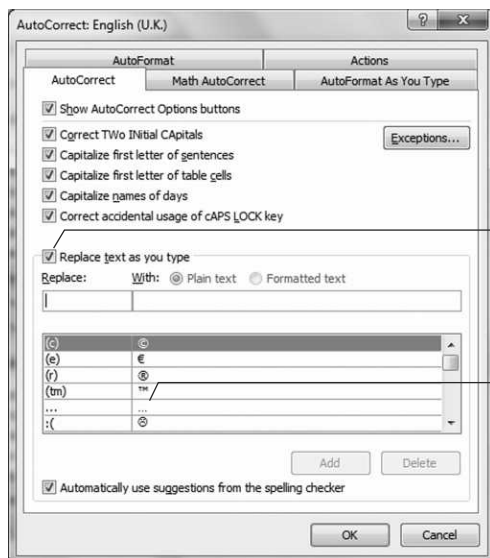


Fig. 3.41 Fixing spelling mistakes through right-click menu

3.22.2 Using AutoCorrect to Automatically Fix Typing Errors

AutoCorrect is a very useful feature which can automatically correct many common typing errors, e.g., typing 'teh' instead of 'the'.

- To test if this feature is working, type **teh** in any document and press **spacebar**. If Word does not automatically correct **teh** to **the**, you need to enable the AutoCorrect option.
- Open the Word Options dialog box, click **Proofing** and then click **AutoCorrect Options** to display the AutoCorrect dialog box shown in Fig. 3.42.



Keep this box checked to enabled AutoCorrect

List of AutoCorrect entries

Fig. 3.42 AutoCorrect dialog box

- For AutoCorrect to function, ensure that **Replace text as you type** check box is selected. The dialog box also enables you to manually define AutoCorrect entries, though normally these entries are added in the background by clicking the AutoCorrect button while performing the spelling checking.

3.23 INSERTING PAGE NUMBERS



As you type text in a document, Word automatically takes care of page breaks as per the defined page setup.

- To display page numbers at the top or the bottom of the page of your document, click **Page Number** in the **Header and Footer** group on the **Insert** tab and Word displays a menu containing options to insert or remove page numbers as shown in Fig. 3.43.
- Now click the appropriate command to control the position for the page numbers. To change the format of page numbers or to start the page number from a number other than 1, click **Format Page Numbers**.

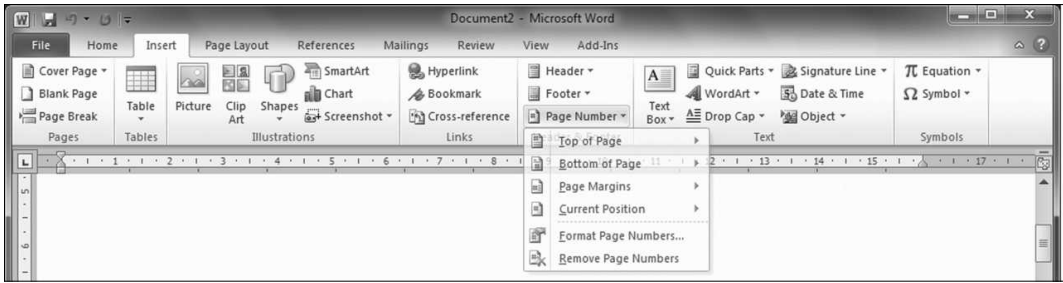


Fig. 3.43 Inserting page numbers in a document

3.24 INSERTING PAGE BREAKS



As you know, as you type text in a document, when there is not enough space on the current page for the text, Word automatically ends the current page and starts a new page. This type of page break is called *soft* page break. However, sometimes, you may like to end the current page after a particular line and start the next page, i.e., to forcibly end the current page by inserting a *page break*. This is also called *hard* page break.

- To insert a page break at the cursor position, press **Ctrl+Enter**. Alternatively, click the **Insert** tab and click **Page Break** in the Pages group.

Inserting a Blank Page If you need to insert a blank page in your document:

- Move the cursor to the location where you want to insert a blank page. Click **Blank Page** in the Pages group on the Insert tab.

3.25 ADDITION OF COVER PAGE



While you can type text and format it to create a cover page for your document, Word provides an alternate convenient way to accomplish the same. To insert a cover page from a wide selection of preformatted cover page designs offered by Word:

- On the Insert tab, click **Cover Page** in the Pages group to display icons for the available cover pages.
- Click the icon for the cover page you want to insert at the beginning of your document.
- Now you can edit the inserted cover page to customise it as per your needs. If you need to remove the cover page, click **Cover Page** in the Pages group on the Insert tab and click **Remove Current Cover Page**.

3.26 LOOKING AT A DOCUMENT IN DIFFERENT VIEWS



While editing a document, you can look at the document in five ways—Print Layout, Draft, Web Layout, Outline and Full Screen Reading. The Print Layout view is the default view. The view that you would use depends on your needs and personal preference.

1. **Print Layout View:** This view displays the page as WYSIWUG (What is you is what you get), i.e., it displays page margins, header, footer, page numbers, etc. However, this view reduces the area available for editing.
2. **Draft View:** The Draft view is suitable for editing and formatting the document. While each element, such as paragraph, graphics, table, etc., is displayed and formatted as it would appear on the printed page, it hides header, footer and page margins. While you get more editing area in this view, it does not show the page as would appear on printing.
3. **Web Layout View:** This view is suitable if you are designing a document for creating a web page.
4. **Outline View:** The Outline view is normally used for complex and long documents. It organises the document units based on heading levels and you can cut, copy or move these with ease.
5. **Full Screen Reading View:** As the name suggests, this view is the most suitable for reading the document on the screen as Word removes the Ribbons as well as most toolbars. Word does not prevent you from editing the document in this mode. To close this view, press Esc or click the Close button located in the top-right corner.

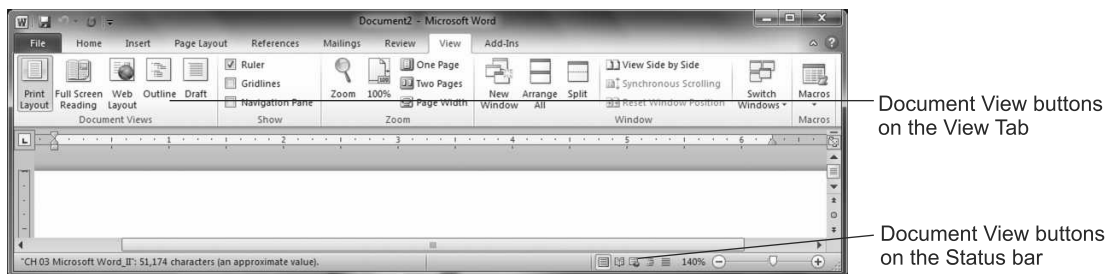


Fig. 3.44 Document View buttons

3.27 ADDING BORDERS AND SHADING TO PARAGRAPHS



To enhance the appearance of your document, you can show a border (box) around a paragraph or even fill the box with a shade, as shown in Fig. 3.45.

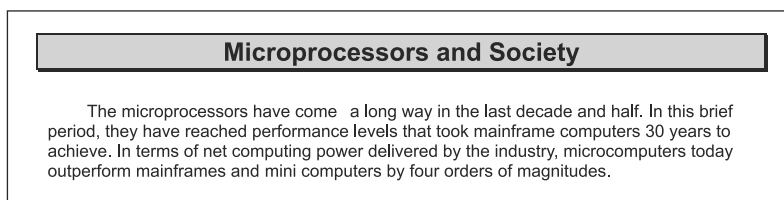


Fig. 3.45 Using borders and shading


- To format a paragraph with border or shading, ensure that the cursor is positioned in that paragraph. If you want to show border around selected text, select the required text.
- On the Home tab, click the arrow button on the right of the Borders button () and Word displays a menu contains the border options, as shown in Fig. 3.46.



Fig. 3.46 Menu displaying the border options

- The border options menu contains options to create common types of border, e.g., top, left, right, bottom, all, none, etc. You can click the corresponding option to create the required border. For additional options, e.g., to create a shadow or 3D border and to add shading, click **Border and Shading** in the menu to display the Borders and Shading dialog box shown in Fig. 3.47.

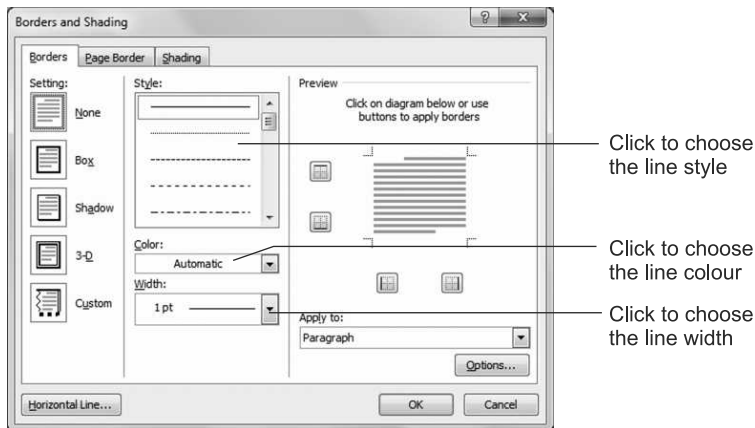


Fig. 3.47 Borders and Shading dialog box

In the Settings area in the left side of the Borders and Shading dialog box, there are five buttons—None, Box, Shadow, 3D and Custom. These buttons are used to create different types of boxes around the selected text/paragraph(s). For instance, if you click the **Box** button, Word draws a box. On the other hand, if you click the **Shadow** button, Word draws a Shadow box. When you click any button, Word displays its effect in the Preview box. The dialog box also has controls to select the line style, thickness and color, as illustrated in Fig. 3.47.

- To fill a paragraph box with a shade, i.e., to display a background for the box, click the **Shading** tab to display the Shading page in the Borders and Shading dialog box. Then choose the desired fill colour and style through the corresponding dropdown boxes.

3.28 ADDITION OF BORDERS, BACKGROUND AND WATERMARK TO PAGE



To enhance the appearance of your document, you can add a border around each page. To add a page border, you should be working in the Print Layout view.

- Click the **Page Layout** tab and then click **Page Borders** in the Page Background group.

Word displays the Borders and Shading dialog box with the Page Border tab selected. The contents of the Page Border tab are similar to the Borders tab shown in Fig. 3.47. Now you can apply a page border as per the steps discussed in the previous section.

3.28.1 Page Background

- To apply a background color to the page, click **Page Color** in the Page Background group on the Page Setup tab.
- Word displays a dialog box to choose the background color. Besides choosing the solid colors, you can give striking effect to the page background by clicking Fill Effects and choosing gradient, texture or pattern.

3.28.2 Adding Watermark to Pages

You can add a watermark to your document, which is displayed and printed in dim style behind the page information. The watermark can serve as a page background or convey a message, such as Confidential, Draft, Do not copy, etc. You can use a watermark from a few commonly used pre-defined watermarks or define your own.

- To apply a watermark to the document, click **Watermark** in the Page Background group on the Page Layout tab and Word displays the Watermark dialog box shown in Fig. 3.48.

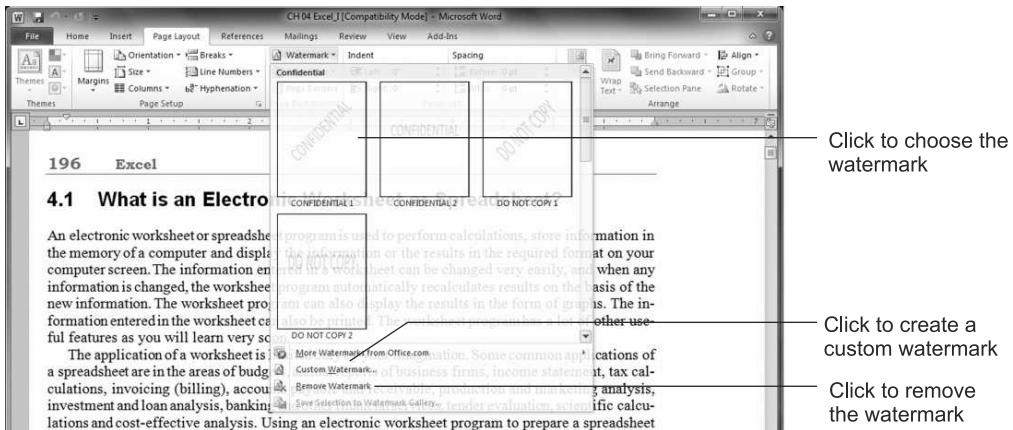


Fig. 3.48 Defining a watermark for the document

- If the watermark you want to use is displayed in the Watermark gallery, click to select it, otherwise, click **Custom Watermark** to display the Printed Watermark dialog box. This dialog box enables you to choose watermark text from a large list of predefined texts, type your own text or define a picture as the watermark.

3.29 USING HEADERS AND FOOTERS IN THE DOCUMENT



The *header* is a special text that is printed at the top of each page (above the normal text.) as shown in Fig. 3.34. The sample page contains a header—*Defining Page Setup*. Normally, we use only text as the header; however, it can also include graphics. You might have noticed a header in books that is used to show the title of the book or the name of the chapter. Similarly, in a multi-page document, we may also use footer. The footer is text and/or graphics printed at the bottom of every page.

- To define the header (or footer) for a document, click the **Insert** tab and then click **Header** (or **Footer**) in the Header and Footer section and Word displays a gallery containing built-in styles, as shown in Fig. 3.49.

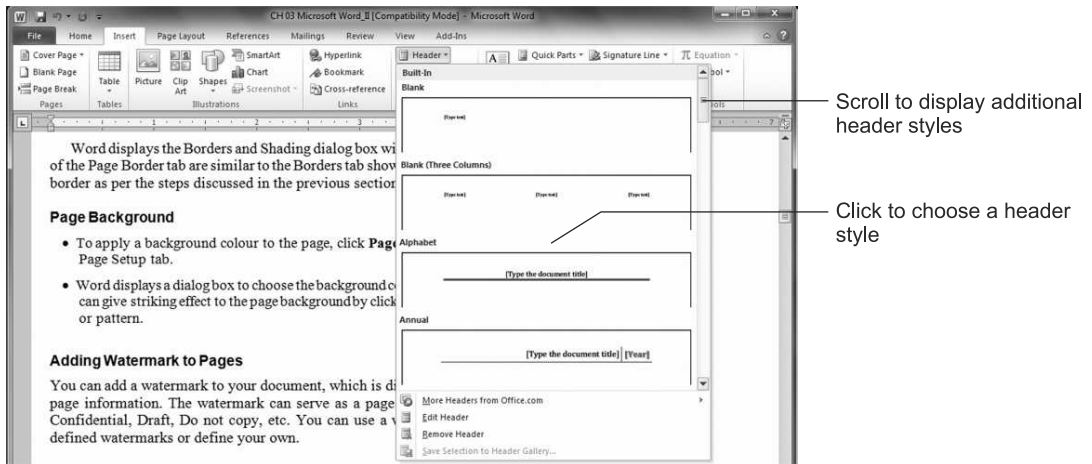


Fig. 3.49 Choosing a header style

- You can scroll the gallery to view additional styles. If you do not like any of the predefined style, click the **Blank** style and you will be able to define your own header (or footer) text; otherwise, click the style you like.
- Word inserts the header/footer in the document and moves the insertion point to that area. The document text appears in dim intensity and Word adds **Header and Footer Tools** to the Ribbon to help you design and format the header/footer as shown in Fig. 3.50.

Now you can click the placeholders to type the text, if applicable. You can type text or insert graphics using the regular Word commands. Similarly, you can format the header/footer text the same way as you format the document text. You can click Go To Header/Footer buttons to switch between header and footer.

- To close **Header & Footer Tools**, double-click in the document area or click the **Close** button located at the right in **Header & Footer Tools**.
- If you prefer, you can define a different header and/or footer for even and odd pages. Similarly, you can define a different header/footer for the first page of your document. To do so, click the corresponding button in **Header & Footer Tools** and use **Previous/Next** buttons to define separate header/footer.

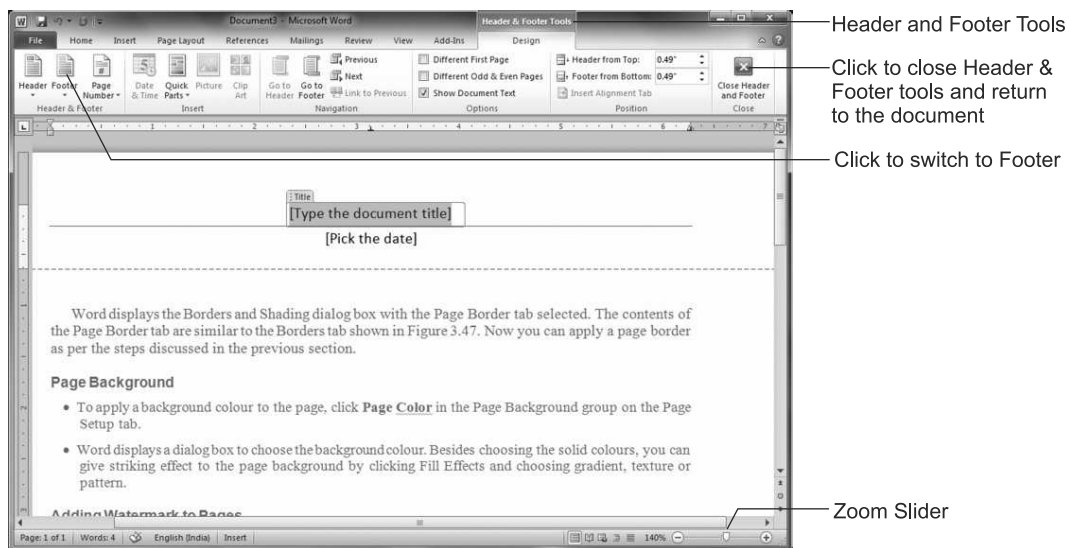


Fig. 3.50 Editing header

3.30 ZOOM IN AND OUT



The zoom feature enables you to enlarge or reduce the size of the text and other objects in the document. While 100% displays the document in regular mode, you can use any zoom percentage from 10% to 500%.

- The quickest way to change the zoom percentage is by using the *zoom slider* (see Fig. 3.50.) You may either drag the slider with mouse or click the **Zoom In (+)** or **Zoom Out (-)** button, which changes the zoom percentage in steps of 10%.
- An alternate way to change the zoom the document is by using the Zoom dialog box, which you can open by clicking the **Zoom** button on the **View** tab. This dialog box let you type the zoom percentage or increase/decrease the zoom percentage in steps of 1%.

Tip If your mouse has a scroll wheel, hold down the Ctrl key and rotate the scroll wheel to zoom in or zoom out. On laptops equipped with touchpad, you may be able to do *pinch-zoom*.

3.31 CHANGING CASE



- If you need to change the case of the text you have typed, click the **Change Case** button (Aa) in the Font group on the Home tab.

Word displays a menu with five options—Sentence Case, Lower Case, Upper Case, Title Case and Toggle Case. The Sentence Case capitalizes the first letter of the first word in the selected sentence, or the first word after the end of a sentence. The Lower Case option changes the selected text to all lower case letters, and Upper Case to all upper-case letters. Title Case capitalizes the first letter of each word

of the selected text, e.g., it changes *Computer and society* to *Computer And Society*. Finally, Toggle Case changes all upper case letters to lower case letters and all lower case letters to upper-case letters in the selected text. For instance, Toggle Case converts *My Computer* to *mY cOMPUTER*.

Tip You may use Shift+F3 shortcut keys to change case for the selected text.

3.32 INSERTING DATE AND/OR TIME



To type the date and/or time in your documents, you can take the help of Word. Word can type the *system* date and/or time in the document for you.

- Move the cursor where you want to insert the date/time and click the **Date and Time** button in the Text group on the Insert tab and Word displays the Date and Time dialog box as shown in Fig. 3.51.
- Word allows you to insert the date and/or time in several formats, languages and calendar type. Click the desired format and click **OK**.

Notice the **Update Automatically** check box near the bottom of the dialog box. Check (select) this check box only when you want Word to automatically change the inserted date to the *system date*. For instance, if you want to insert a date in the document and would like Word to display tomorrow's date when you open the document tomorrow, check **Update Automatically** prior to clicking **OK**.

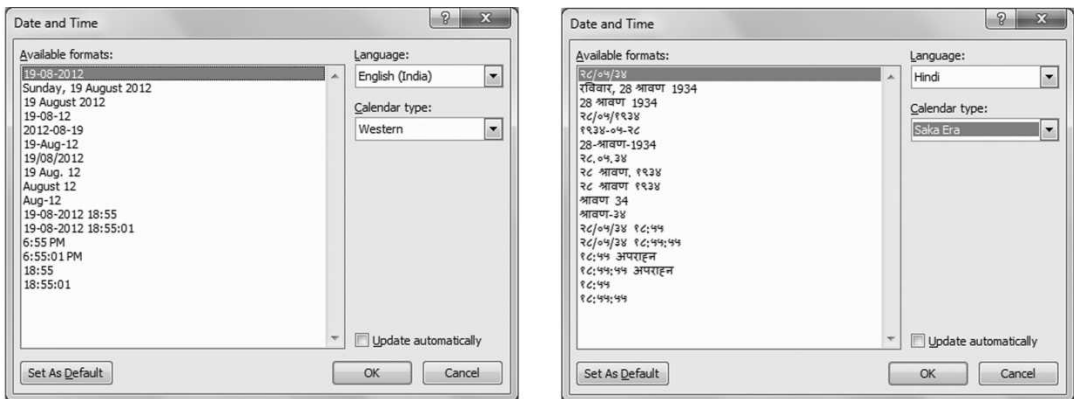


Fig. 3.51 Date and Time dialog boxes displaying available formats in English and Hindi

Depending on the installed languages on your computer, you may be able to choose the language form the *Language* drop-down list box and calendar type from *Calendar Type* box. The first dialog box in Fig. 3.51 displays available formats in the English (India) language in the western calendar, whereas the second uses the *Saka* era in Hindi.

3.33 INSERTING BOOKMARKS



If you are creating a long document, you may find the seldom used bookmark feature helpful. A bookmark is a named location in the document that is used for future reference. For instance, in a large

document that contains several sections, you may assign a bookmark to the beginning of each section. After bookmarks have been defined in a document, you can use **Go To Bookmark** to quickly jump to the desired bookmark.

- To add the bookmark to a document, select the text or move the cursor to the location where you want to insert the bookmark, and click **Bookmark** in the Links group on the Insert Tab. In response to this, Word displays the Bookmark dialog box shown in Fig. 3.52.



Fig. 3.52 Bookmarks dialog box

- Now enter the desired bookmark name in the Bookmark Name box and click **Add**. While assigning a bookmark name, always use meaningful names.
- After you have created bookmarks, to jump to a specific bookmark, open the Bookmarks dialog box by clicking **Bookmarks** in the links group on the Insert tab and then double click the desired bookmark. Alternatively, click the desired bookmark name and click the **GoTo** button. Yet another way to jump to bookmark is discussed in the next section.

3.34 MOVING TO A SPECIFIC PAGE/BOOKMARK (F5)



Word can help you to quickly jump the cursor to the desired page, bookmark, footnote, endnote, etc., through the Go To tab of the Find and Replace dialog box.

- Press **F5** or **Ctrl+G** and Word opens the Go To tab of the Find and Replace dialog shown in Fig. 3.53.



Fig. 3.53 Jumping to a specific bookmark/page

- To jump to a specific bookmark, ensure that **Bookmark** is selected in the *Go To What* list box, choose the desired bookmark from the drop-down list box in the dialog box and click the **Go To** button.

If you want to jump to a specific page:

- Select **Page** in *Go to what*, type the desired page number and click **Go To**. If you want to move forward a specific number of pages relative to the current page, enter '+' followed by the number of pages, e.g., **+3** moves the document forward by three pages.

3.35 ADDITIONAL PARAGRAPH FORMATTING OPTIONS



The Lines and Page Breaks tab of the Paragraph dialog box contains additional paragraph formatting options, as illustrated in Fig. 3.54. The **Window/Orphan** control, when checked ensures that minimum numbers of lines are kept on both pages when a paragraph gets divided into two pages. If you want to keep the entire paragraph on the same page, check **Keep Lines Together**. The **Keep with Next** option, normally used with headings ensures that the current paragraph and the next paragraph remain on the same page. And, if you do not want to hyphenate a paragraph, click **Don't Hyphenate**.

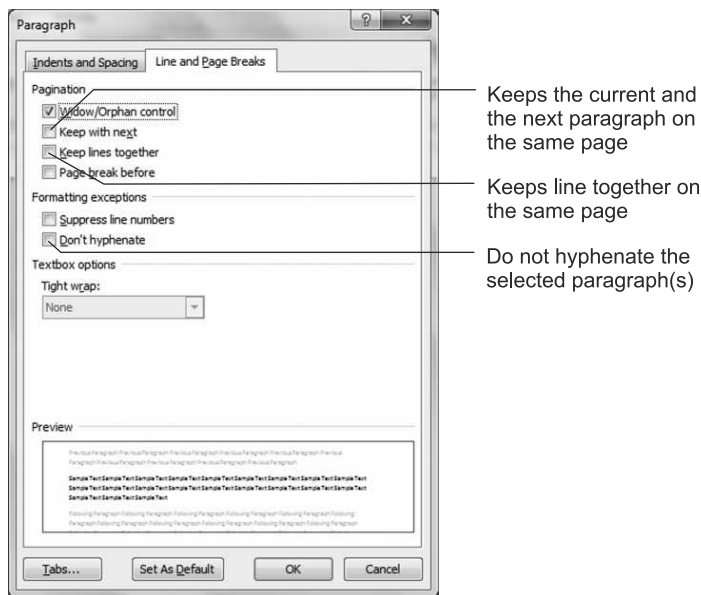


Fig. 3.54 Line and Page Break options in the Paragraph dialog box

3.36 USING MULTIPLE COLUMNS IN A DOCUMENT



Word can help you to create a document with multiple columns, similar to what you see in newspapers or some books. For instance, consider the page shown in Fig. 3.55, where the text is formatted in two columns. Converting paragraphs to multiple columns is quite simple.

4.1 Introduction to Computerised Accounting and Tally

Accounting is one of the most important functions of a business, as it communicates important financial information about the business in easy to understand reports and graphs to users, such as managers, shareholders, public and government. However, to provide accurate financial information, accounting needs to record and process all types of business transactions that result in transfer of money or goods. These transactions include sales, purchase, payments, deposits, payroll, movement of goods, etc. A large business may do thousands or even millions of transactions in a year. Recording, analysing and processing so many transactions is a very time consuming process. In the past, large businesses used to take months to prepare their Balance Sheet or Profit and Loss Account Statement. However, computerised accounting, which has been one of the most common applications of computers, has made the life of accountants easy. Computerised accounting

user, Gold supports up to 10 concurrent users and the Diamond edition can support several hundred concurrent users. Besides these, Tally.ERP 9 is also available in the Rental and Auditor's edition. Tally.ERP 9 has capabilities to completely handle TDS (Tax Deduction at Source) and excise for manufacturing businesses. Tally.ERP 9 also has remote access capability, that lets authorised users to access the Tally data from a computer located at a remote location using Internet. All these features make Tally.ERP 9 an ideal choice for the accounting requirements for almost any kind and size of business.

Though Tally.ERP 9 is currently the most popular version, earlier versions such as Tally 8.1, 7.2 and Tally 6.3 are also in use. Tally.ERP 9 can help you to migrate data from earlier versions to the current version. In this book, we shall discuss Tally.ERP 9 running on a Windows XP PC. If you are using an earlier version of Tally, some of the commands or features discussed in the text may not be applicable or behave in a different way, and the screens you would see may be different from those shown in

Fig. 3.55 A page formatted in two columns

- Select the paragraphs that you want to convert into multiple columns. If you want to convert all text in the document to multiple columns, press **Ctrl+A**.
- Click the **Page Layout** tab and click the **Columns** button in Page Setup group (See Fig. 3.56) and Word displays a gallery containing the columns choices.
- Click the desired column style.

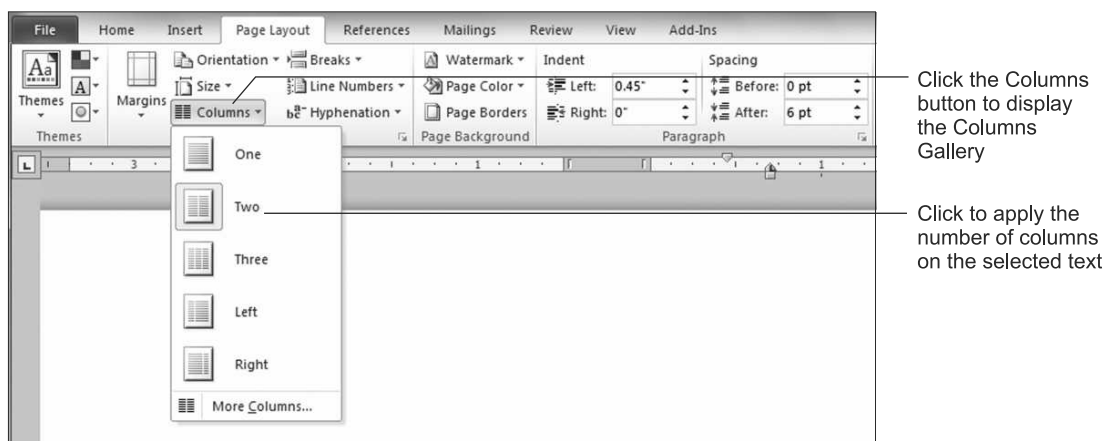


Fig. 3.56 Converting document text to multiple columns

For more precise control on the number of columns and columns widths, click **More Columns...** in the Columns gallery.



3.37 USING WORDART

You can use WordArt to create special text effects. You will find these effects particularly useful for creating signs and headings. The text effect shown here have been created with WordArt.

No Smoking **New Delhi**

- To insert WordArt in your document, move the cursor to the desired location. If you want to convert an existing text to WordArt, select that text.
- Click the **Insert** tab and then click **WordArt** in the Text group and Word displays a WordArt Gallery shown in Fig. 3.57.

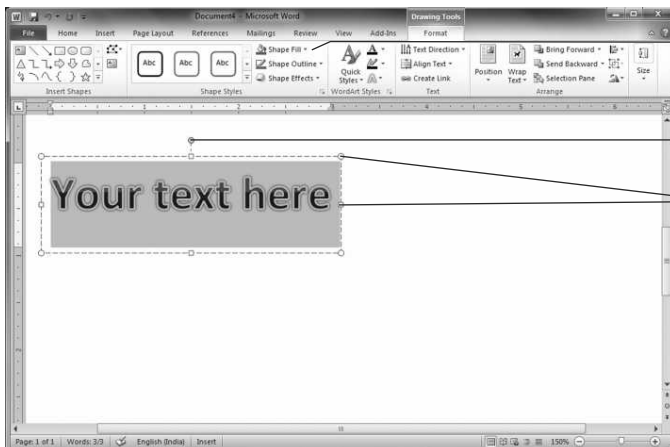


Click WordArt to display the WordArt Gallery

Click to choose a WordArt style

Fig. 3.57 Selecting the WordArt style

- Click the WordArt style you want to use and Word displays a text box containing “Your Text Here” or your selected text. Word also displays the Drawing Tools on the Ribbon as shown in Fig. 3.58. Type or change the required WordArt text in the text box.



Use the drawing tools to format WordArt

Drag to rotate the text box

Drag the resizing handles to resize the text box


Fig. 3.58 WordArt inserted in a document

- You can change the WordArt style by using the Styles, Effects and other controls available in Drawing Tools. (Click the WordArt object if you don't see Drawing Tools.) You can resize the WordArt object by using the resizing handles or rotate the object, as illustrated in Fig. 3.58.

3.38 INSERTING PICTURE, CLIP ART AND TEXT BOX



Word can directly import graphics files created in most of the common graphics file formats, such as Paint, PC Paintbrush, AutoCAD and CorelDraw. Similarly, you can easily insert camera digital pictures in your documents. To insert any graphics or picture file in your document at the cursor position:

- Click  (the Picture button) on the Insert tab to display the Insert Picture dialog box shown in Fig. 3.59.

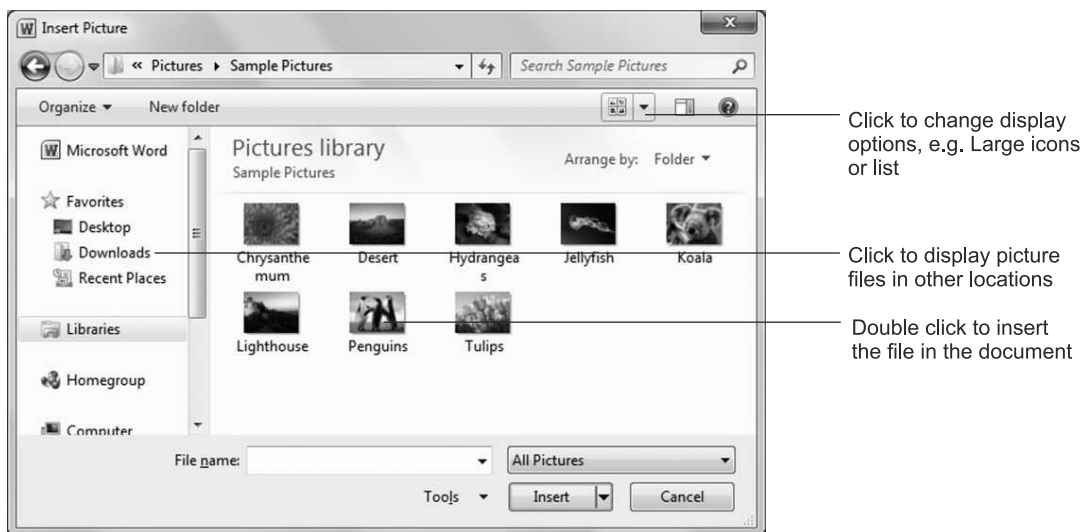


Fig. 3.59 Selecting a picture file in the Insert Picture dialog box

- The Insert Picture behaves like the Open dialog box you use to open a document. You can change the folder, if required and then double click the file you want to insert. Figure 3.60 displays a picture inserted in a document.

After the picture has been inserted, you may resize, crop or modify it using many built-in picture tools. Notice that Word automatically displays Picture Tools when a picture is selected. You would particularly find the Picture Styles tools helpful as you can change the picture's impression by just selecting the Picture Style. Word displays the live preview as you hover the mouse on a Picture Style. You would also find the tools available in the Adjust group helpful to change the picture brightness or colour or remove the background.

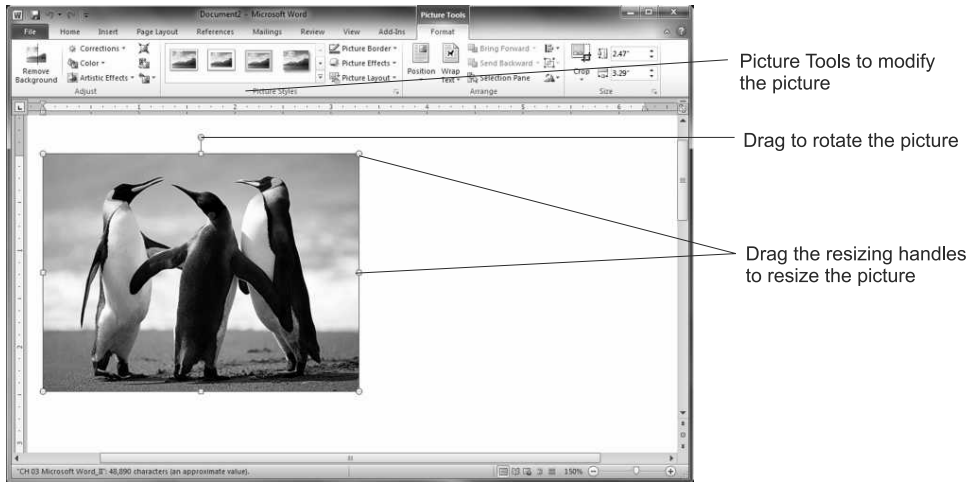


Fig. 3.60 A picture inserted in a document

3.38.1 Adding Clip Art

Word has a number of *clip art* images that you can include in your document. For instance, it has clip art files for an anchor, computer, diskette, dinner, animals, office equipment, etc. To insert any graphics or picture file in your document at the cursor position:

- Click the **Clip Art** button on the Insert tab to display the Clip Art pane shown in Fig. 3.61.
- Type a word or two for the clip art image you want to find in the Search box. You can use options in the Clip Art pane to choose the type of image files (e.g., illustrations, photographs, audio, video, etc.) and if you also want to search at www.office.com. On clicking **Go**, Word displays the results.

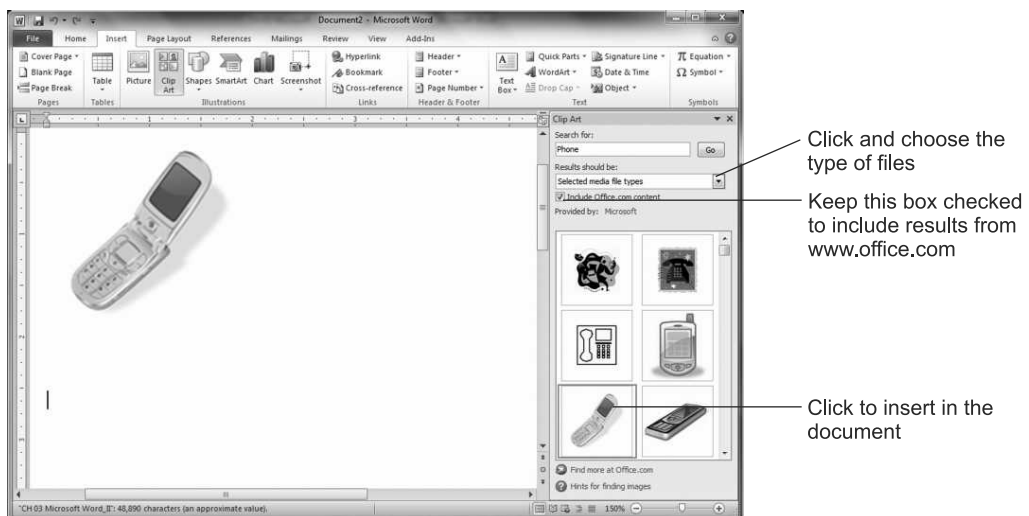


Fig. 3.61 Inserting a Clip Art in a document

- Click an image to insert it in the document. As for a picture, Word displays Picture Tools that you can use to resize, crop, rotate or edit the image.

3.38.2 Adding Text Box

The Text Box icon on the Insert tab provides a convenient way to add a text box to your document. After adding a text box, you can type text in the box. As for an image, Word has a number convenient ways to format the text box.

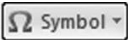
3.39 INSERTING SHAPES, SMARTART, SCREENSHOT AND SYMBOLS

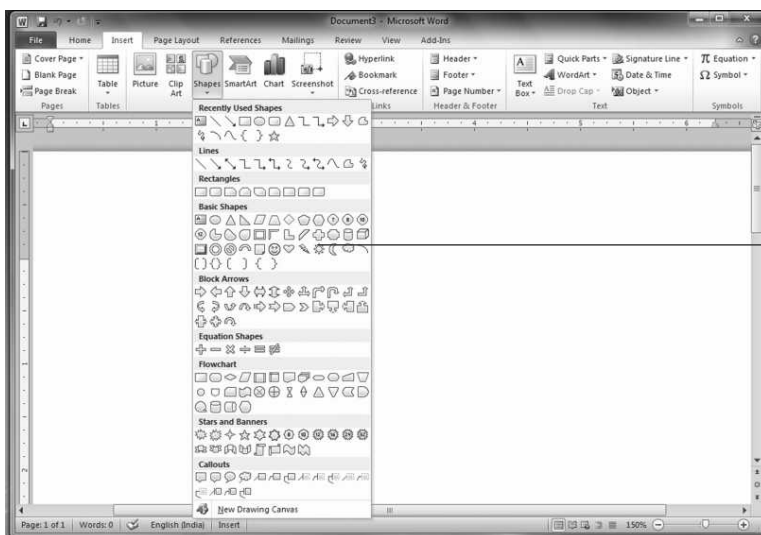


To create professional looking documents, Word includes a set of tools on the Insert tab to insert Shapes, SmartArt, Chart and Screenshots. The **Shapes** tool can be used to insert dozens of shapes as shown in Fig. 3.62. To insert a shape, click the desired shape and drag the mouse pointer in your document. Then Word displays Drawing Tools that you can use to resize, reposition and format the shape.

You can use **SmartArt** to insert useful blocks for creating an organization chart, process flow, cycles, pyramids, etc. The **Chart** tool is helpful to insert a chart in the document. After inserting a chart, you can format it as per your choice with the help of all sorts of tools provided by Word. Basically, Word inserts an Excel chart object in your document.

If you want to insert the Screenshot of an application in your document, click **Screenshot** on the Insert tab. Then Word displays icons for all open windows and you can click the desired icon to insert the corresponding Screenshot.

You can insert symbols, such as ®, Σ and ™ in your document by clicking  on the Insert tab and choosing the symbol from the Symbols gallery. If the symbol you need is not available in the gallery, click **More Symbols** to display the Symbols dialog box and then double click the desired symbol to insert it in your document.



To insert a shape, click and drag the mouse pointer in your document

Fig. 3.62 Shapes Gallery displaying shapes you can insert in a document

3.40 USING AUTOTEXT TO INSERT COMMONLY USED TEXT



In typical work environment, often you may need to type the same text again and again. Some examples of such text are name and address of the company, 'Thanking you', 'Yours Sincerely', etc. Word can help you insert such text, called *AutoText* with ease. Here are the steps required to create an AutoText entry.

- Type and format the text. Your text can include multiple lines of text.
- Press **Alt+F3** or click the **Insert** tab, **Quick Parts**, **AutoText**, **Save Selection to AutoText Gallery** to display the Create New Building Block dialog box shown in Fig. 3.63. Word assigns a default name for the AutoText entry.

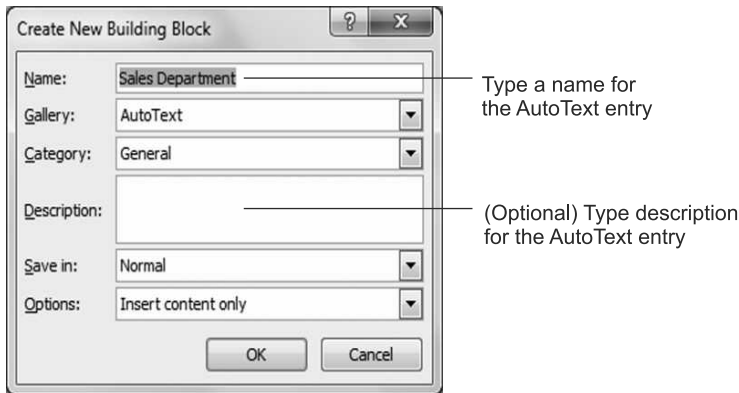


Fig. 3.63 Creating an AutoText entry

- Type a suitable name for the AutoText entry. Optionally, type description for the entry. Then click **OK** to create the entry.
- After you have created AutoText entries, inserting the corresponding text at the cursor location in the document is very easy. On the **Insert** tab, click **Quick Parts**, **AutoText** to display the list of available AutoText entries and click the entry you want to insert in your document.

3.41 INSERTING FOOTNOTES AND ENDNOTES IN A DOCUMENT



You might have seen footnotes and endnotes in some books and articles. Footnotes are printed at the bottom of the page and endnotes at the end of the document. To insert a footnote or endnote in a Word document:

- Move the cursor where you want to insert the footnote/endnote and click the **References** tab.
- Click **Insert Footnote/Insert Endnote**.
- Word inserts the footnote/endnote at the cursor location and prompts you to enter the footnote/endnote text.
- If you need to delete a footnote/endnote, select it in the document and press the **Delete** key.

3.42 AUTOMATICALLY NUMBERING FIGURES AND TABLES



If your document contains several figures, tables, equations, etc., you can ask word to automatically number these for you. The advantage of using automatic numbering over manual numbering is that as you add or delete a figure or table, Word automatically renumbers the entire document. To use this feature in a document:

- Move the cursor at the desired location and click the **References** Tab.
- Click **Insert Caption** to display the Caption dialog box shown in Fig. 3.64.

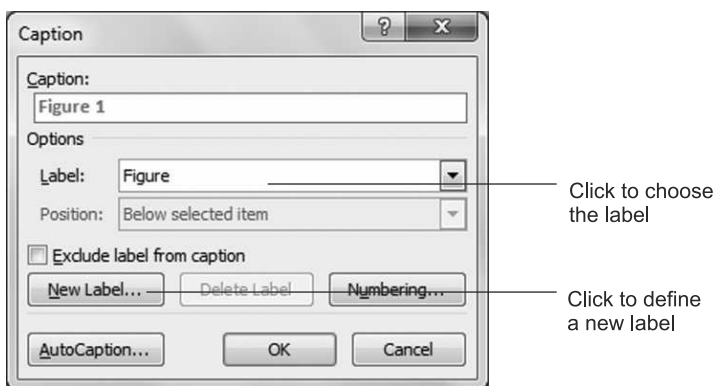


Fig. 3.64 Caption dialog box

- Now choose the desired label, such as Figure, Table, Equation, etc., from the **Label** drop-down box. If you need to create a new label, use the **New Label** button. Finally, click **OK** to insert the caption in the document.

3.43 INSERTING HYPERLINKS



You may include hyperlinks in your document. A *hyperlink* is used to display an existing webpage or file. It can also be used to jump to a location or bookmark in the current document.

- To insert a hyperlink, click **Hyperlink** on the Insert tab to display the Insert Hyperlink dialog box shown in Fig. 3.65.

The *Text to Display* box is used to define the text for the hyperlink. The *Link To* panel in the left side of the dialog box is used to select the type of the link, e.g. to an existing file name, web page or a location within the current document. The *Address* box in the lower part of the dialog box is used to define address for the file, webpage, email, etc.

- After defining the required options, click **OK** to insert the hyperlink.
- When you move the cursor on a hyperlink, Word displays a tooltip explaining how to jump to the hyperlink. You can **Ctrl+Click** a hyperlink to go to the link and Word opens the linked document or webpage, as applicable.

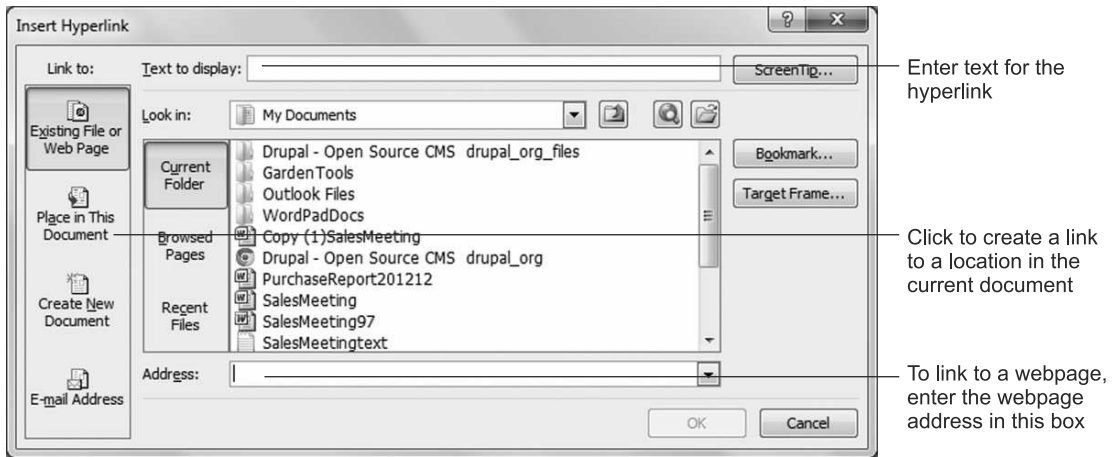


Fig. 3.65 Insert Hyperlink dialog box

3.44 TRACKING CHANGES



Sometimes more than one user modifies a document. For instance, you may prepare a project report and hand it over to your Manager for review. While reviewing the report, if your Manager makes any changes to the document, and you want to know all changes made by the Manager, you may turn on *Track Changes* by pressing **Ctrl+Shift+E** or clicking **Track Changes** on the Review tab. When the Track Changes option is ON, Word displays the Reviewing toolbar and any changes made to the document are displayed in different color with suitable comments. The buttons in the Changes group on the Review tab enable you to reject or accept any or all changes.

3.45 CREATING A PDF FILE FROM A WORD DOCUMENT



If you want to share a Word document with other users or for commercial printing and they do not have the Word program, they may have difficulty opening it. Also, e-mailing a big Word document may be an issue due to its large file size. In these situations, saving the document as a PDF (Portable Document Format) file may be the best option as it retains the document formatting, the file size becomes small and yet anyone can view or print it as PDF readers are available free of cost. A PDF file can be opened on any hardware, operating system or application. Most computers already have one or more PDF readers installed, however, if you need one, visit <http://get.adobe.com/reader> or search PDF reader on the web. To create a PDF file:

- Open the Word document, click the **File** tab and then click **Save As** to open the Save As dialog box.
- Click the file type against *Save As Type* to display the file types list and click **PDF**.
- Change the file name or folder, if required and click the **Save** button to create the PDF file.

Note Word also supports the **XPS Document** format, which is Microsoft's equivalent of PDF.



3.46 EMAILING A DOCUMENT

While you can attach any document, including a Word document to an e-mail message, Word has a built-in option to e-mail the document you are editing. In other words, you do not need to worry about the file name and path of the document; just click **Save and Send** link in the Backstage view and click the desired send option, as illustrated in Fig. 3.66.

Word supports options to attach the document as a Word document, PDF file or XPS file. If you select PDF or XPS option, Word automatically creates the corresponding file. Then it opens the default e-mail client program on your PC, creates a new message and attaches the file. Now all you need to do is type the e-mail address and message, and send the e-mail.

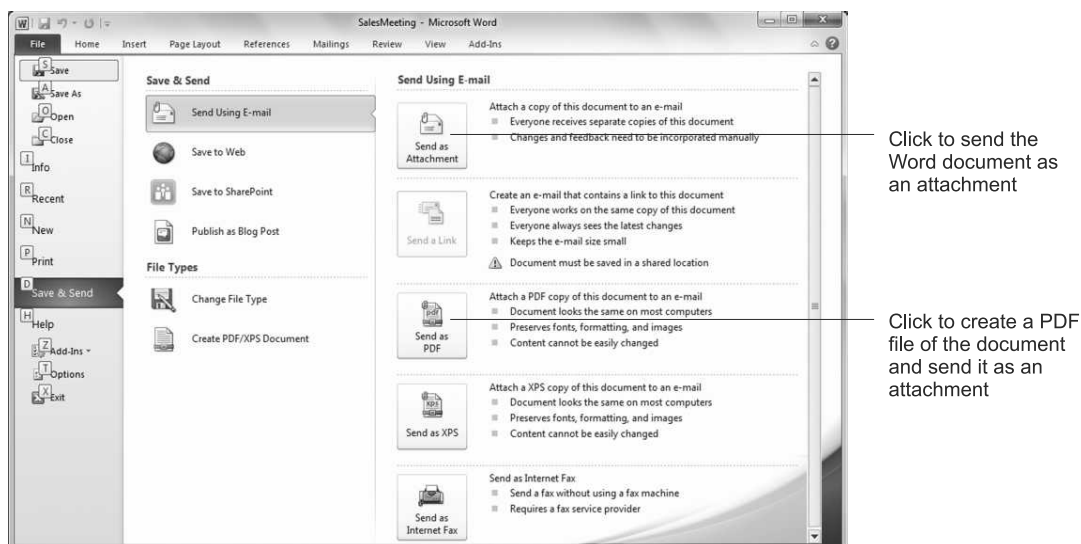



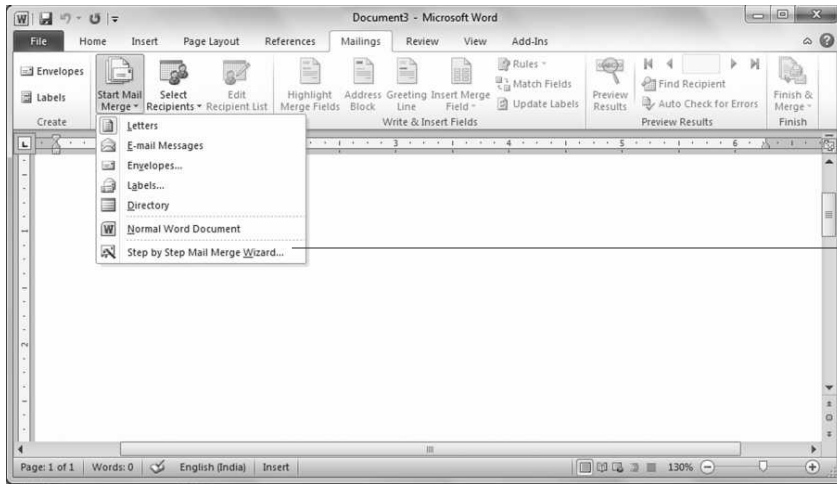
Fig. 3.66 E-mailing a document

3.47 USING MAIL MERGE



Mail Merge is a very useful and powerful addition to the primary feature of Word, word processing. You can use Mail Merge to print personalized form letters (bearing the addressee's name and address on the letter), envelopes, mailing labels, etc. Form letters are letters that have the same (or nearly the same) contents and are sent to several persons. Business letters describing the launch of a new product, call letters for interviews, notices for a meeting, invitations to a party, etc., are examples of form letters. To help you perform Mail Merge, Word includes a *Step by Step Mail Merge Wizard* on the Mailing tab. This Wizard helps you to set up the Mail Merge document and prepare the mail merged output. Let us learn to use Mail Merge.

- Press **Ctrl+N** to create a new document, click the **Mailing** tab and click  and Word displays a pull-down menu shown in Fig. 3.67.

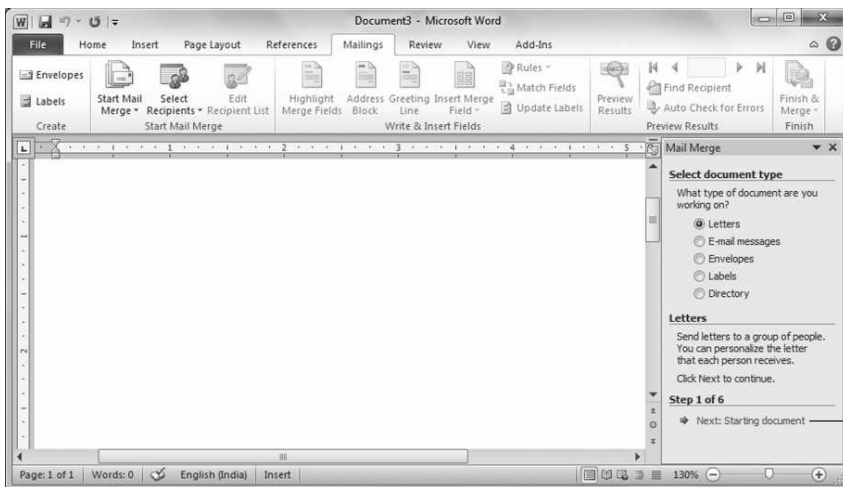


Click to start the Step by Step Mail Merge Wizard

Fig. 3.67 Start Mail Merge menu

- The *Step by Step Mail Merge Wizard* guides us through the Mail Merge process. On clicking this command in the menu, Word displays the Mail Merge wizard on the right side of the window as shown in Fig. 3.68.

The first step of the Wizard shown in Fig. 3.68 asks you to select the type of Mail Merge document you want to create. The Mail Merge wizard can help you to create various types of Mail Merge documents, such as letters, envelopes, labels, email messages and directory. The default option is Letters which is used to create Mail Merge letters.



Click to start the Mail Merge document

Fig. 3.68 The first step of Mail Merge Wizard

- Ensure that *Letters* is selected as the document type and click **Next: Starting document**, as illustrated in Fig. 3.68.

In Step 2, Mail Merge prompts you to select a document for Mail Merge. The default option, i.e., *Use the current document* is good to create a new Mail Merge document based on the current document. To modify an existing Mail Merge document or convert an existing Word document into a Mail Merge document, use the third option, i.e., *Start from existing document*.

- Ensure that *Use the current document* is selected, click **Next: Select Recipients** and the Mail Merge wizard displays the next step shown in Fig. 3.69.



Fig. 3.69 Select Recipients in Mail Merge wizard

The recipients list contains the name, address and other details that you want to include in the Mail Merge document. If you already have the required data in an Access, Excel, text, dBASE, Lotus, ODBC file, choose the first option (*Use an existing list*) and click the **Browse** button to choose the required file. The second option (*Select from Outlook contacts*) enables you to choose the recipients from the contacts you have in your Outlook program. Finally, the last option (*Type a new list*) enables you to manually type the list. Normally, you would use the first or the second option, however, for now, let us choose the third option.

- Click **Type a new list** option and then click **Create** to enter data for recipients.

Word displays a *New Address List* form that helps you to enter and edit the recipients list, as shown in Fig. 3.70.

- Type an address entry and then click the **New Entry** button to enter the next entry. After entering details for all recipients, click **OK** and save the address list in a file. You may edit or sort the recipients list, if required. Finally, close the list.



Fig. 3.70 *New Address List dialog box*

- Click **Next: Write your letter** to move to the next step.

Writing the letter in a Mail Merge document is similar to typing in a regular Word document. However, you need to perform one extra step of inserting *Merge fields* in the Mail Merge document at appropriate places. That is, you insert fields corresponding to the Title, First_Name, Last_Name, Address, City, State, etc., from the recipients list file (also called the data source) in the document at appropriate place.

- To insert a mail merge field in the document, move the cursor at the required place in the Mail Merge document and then choose the required field from the **Insert Merge Field** button on the Mailing tab, as shown in Fig. 3.71.

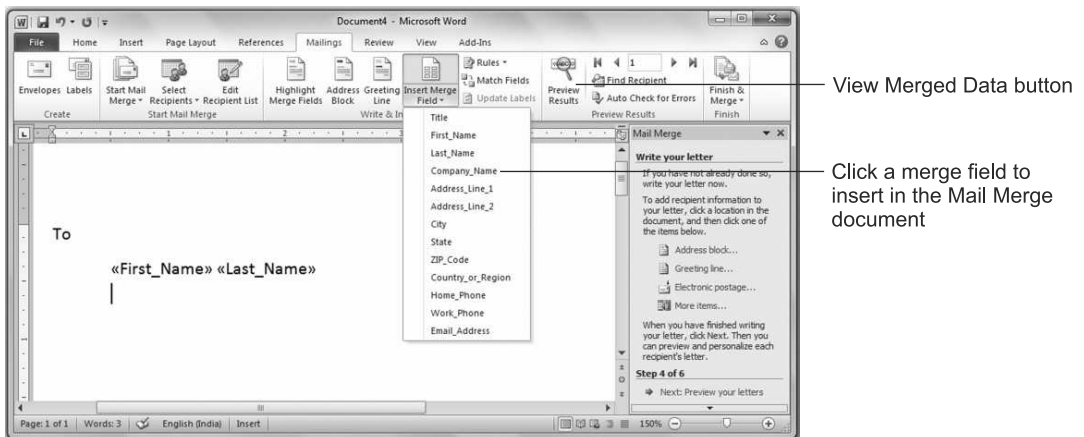


Fig. 3.71 *Inserting Merge field in a Mail Merge document*

Word inserts the selected field in the document and shows it enclosed within double angle brackets, e.g., «First_Name». To view the actual data instead of the field name, click Preview Results on the the Mailing tab.


3.47.1 Printing Merge Letters

You can print the merged letters directly on the printer or save the output first in new document file and then print these later like any other document file. You can even send the output as an email message.

To perform the Mail Merge, click **Finish and Merge**  and choose the desired option.

3.47.2 Printing Envelopes and Labels

Most modern printers can directly print on envelopes and label stationery, and Word can help you to print directly on an envelope or label stationery.

- To prepare an envelope or label, choose the corresponding option when you click  (see Fig. 3.67) and Word displays the corresponding options dialog box. Figure 3.72 displays the Envelopes Options dialog box.

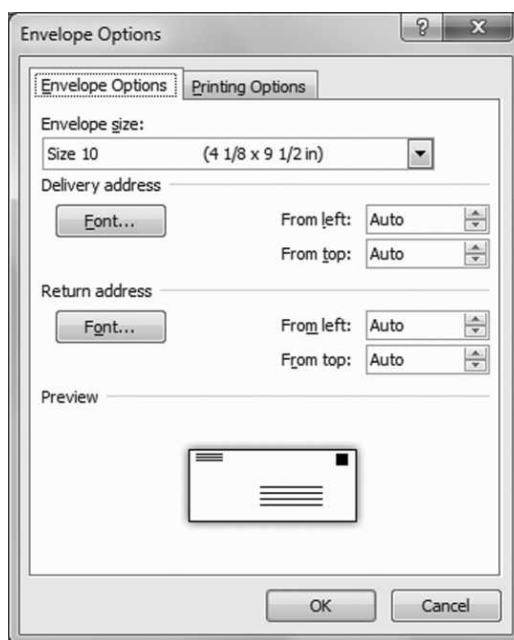


Fig. 3.72 Envelopes Options dialog box

- Now choose the envelop size you plan to use and click **OK**.

The rest of the process of creating a Mail Merge document for envelopes and labels is same as that for letters.



3.48 PASSWORD PROTECTING A DOCUMENT

If you prepare a document that contains confidential information, you can protect it with a password to prevent unauthorized users from viewing or modifying it. A password protected document can be opened only after providing the correct password.

- To password protect the current document, click **File** to go to the Backstage view and click **Save As** to open the Save As dialog box.
- Click **Tools** to display a submenu shown in Fig. 3.73.

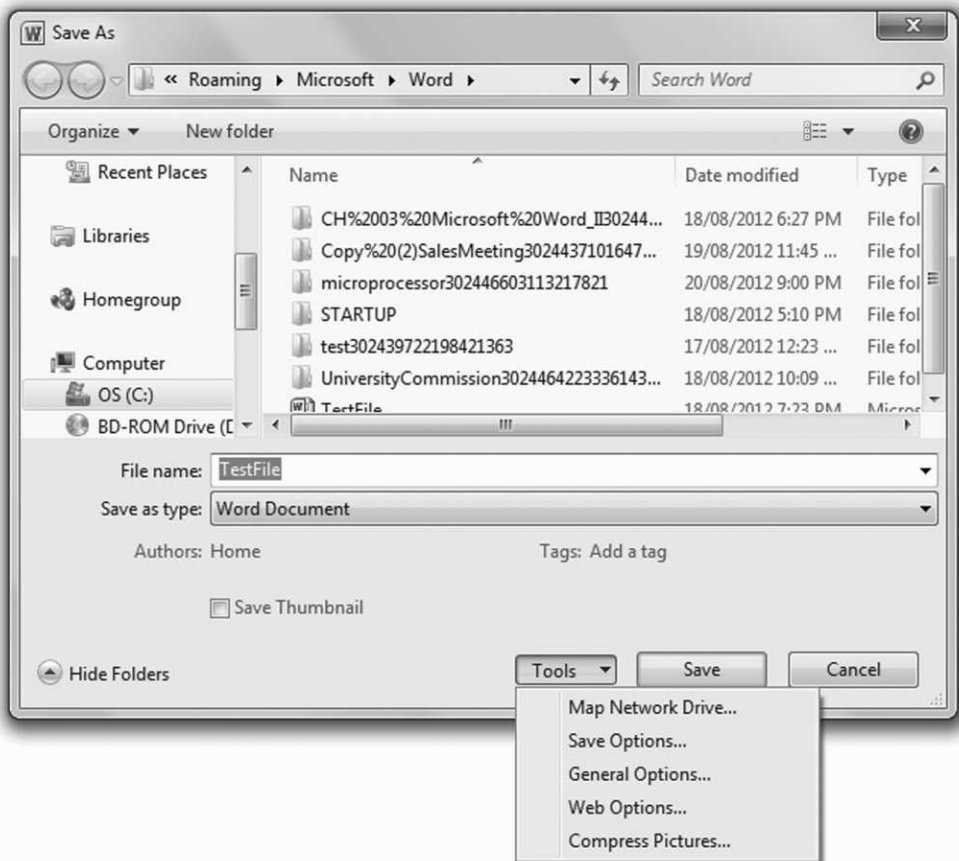


Fig. 3.73 Save As dialog box displaying Tools

- Click **General Options** to display the General Options dialog box shown in Fig. 3.74. The dialog box allows you to define two passwords—one to open the document and the second to modify the document. The use of *Password to modify* is optional. After defining password(s), Word asks you to reconfirm the passwords. Remember that passwords are case-sensitive and if you forget these, you may not be able to open the document.



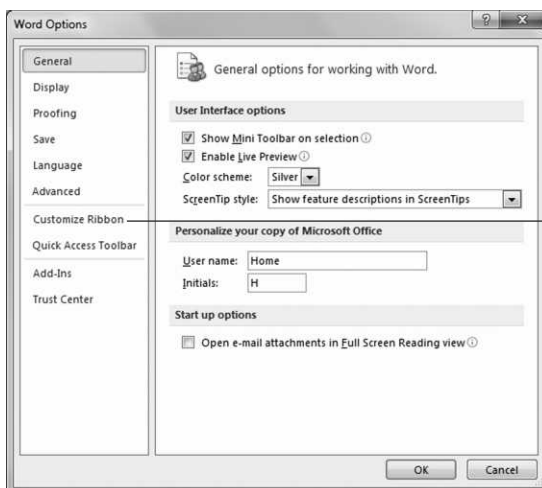
Type password to open the document and click OK. Word displays a Confirm Password dialog box to re-enter the password.

Fig. 3.74 General Options dialog box

3.49 CUSTOMIZING WORD



Word is highly customizable. The central place to change Word options is through the Word Options dialog box that we have already discussed. You can open this dialog box by clicking **Options** in the Backstage view. As shown in Fig. 3.75, various options are classified into categories, such as General, Display, Proofing, Save, etc., which are listed in the navigation pane in the left. On clicking an option category, Word displays the corresponding options in the right pane. Advanced users may try to customize the Ribbon and Quick Access Toolbar. If you are not sure about an option, click the help button (?) located on the right side of the title bar.



Click to customize Ribbon

Fig. 3.75 Word Options dialog box

3.49.1 Customizing Quick Access Toolbar

By default, the Quick Access toolbar contains three commands—Save, Undo and Redo, however, you can customize it to add any command that you frequently use.

- An easy way to add/remove commands to the Quick Access toolbar is by clicking the drop-down arrow located on the right side of the toolbar and clicking the corresponding command, as illustrated in Fig. 3.76. Click **More Commands** to display additional commands that you can add to the Quick Access toolbar.
- To add any command available on any tab of the ribbon, right click the command to display a context menu and click **Add to Quick Access Toolbar**.

3.49.2 Customizing Ribbon

Microsoft has grouped the commands into various tabs and groups on the Ribbon after monitoring the sequence of commands used by thousands of users over extended period. Most users find the commands layout on the Ribbon convenient, however, if you prefer, you can change the layout of the Ribbon. To do so, click Customize Ribbon in the Word Options dialog box as shown in Fig. 3.75. Then the Options dialog box displays controls to add a custom group to any tab and add any command(s) to that group. Although the Ribbon can be customized, most users do not customize the Ribbon because they would have trouble finding commands on the standard Ribbon on other computers.

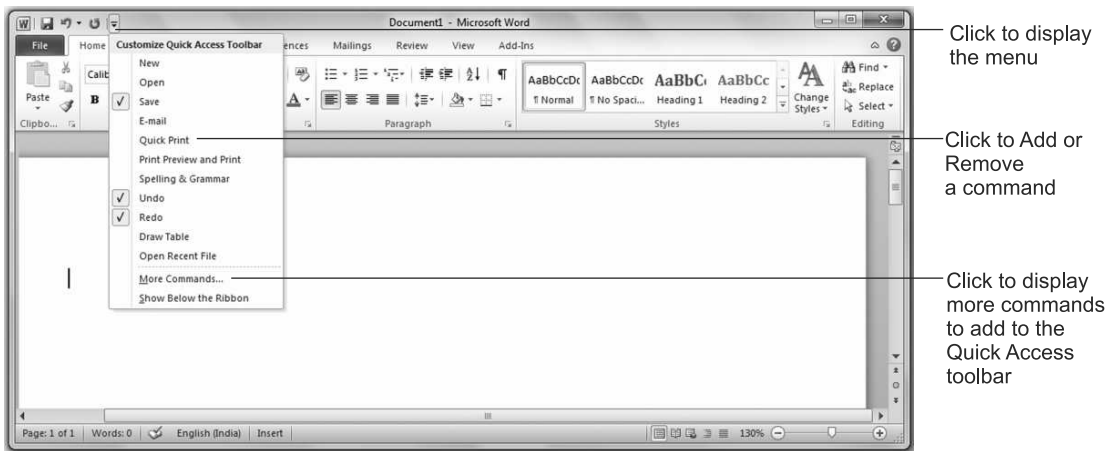



Fig. 3.76 Customizing Quick Access toolbar

3.50 USING STYLES



When our documents are simple and small, we are able to format it using the formatting buttons on the Ribbon or using keyboard shortcuts. However, as our documents become long and complex, maintaining consistent formatting becomes an issue. For instance, if your document has several section headings, you would like to use the same formatting style for all headings. To apply consistent formatting, you will find the *styles* helpful. A *style* is a predefined set of formatting which may include font, paragraph,

border and shading formatting. You can either use existing styles or create your own new styles. Each style is given a name. Word comes equipped with several commonly used formatting styles for section headings, normal text, index, table of contents, etc. When you create a new document, it gets all styles that are available in the template you use. Let us have a look at the styles that you can use on a document based on the Normal template.

- Press **Ctrl+N** to create a new document and type **Using Styles**. Do not press the **Enter** key.
- Move the mouse over **Heading 1** in the Styles group (see Fig. 3.77) and Word displays the preview of the style on the text in the paragraph. To view additional styles, click the scroll buttons. To view all available styles, click , the More button to open the Styles gallery.
- You can also apply styles through the Styles Pane. To open the Styles Pane, click **Dialog Box Launcher** located at the bottom-right in the Styles group.

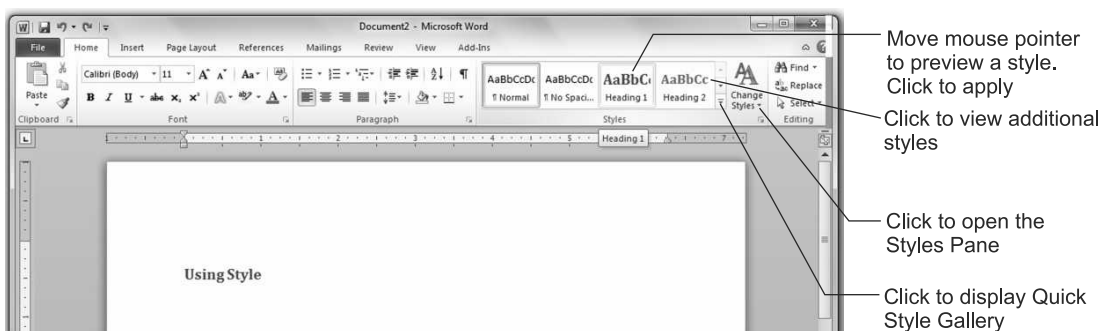



Fig. 3.77 Applying Styles

You can also create your own styles with ease with the following steps:

- Use any formatting tools to format a paragraph as per your requirements.
- Click  in the Style group to open the Style Gallery, shown in Fig. 3.78.

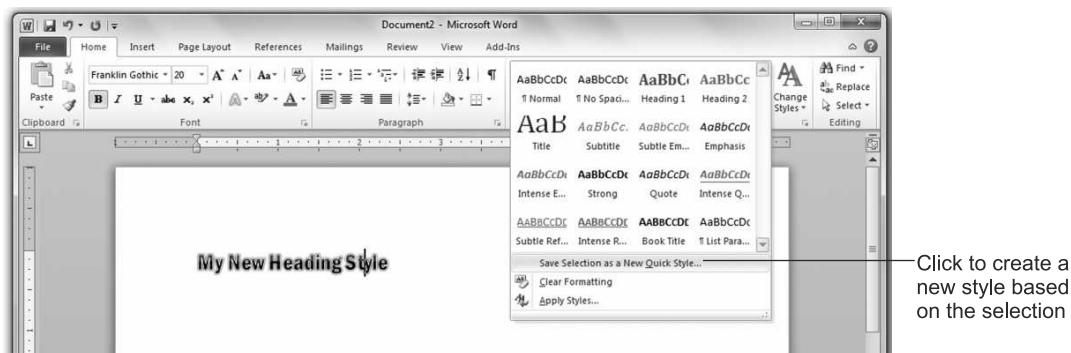


Fig. 3.78 Creating a new style

- Click **Save Selection as a New Quick Style** to display the Create New Style from Formatting dialog box. Type a name for your style and click **OK** to create the style. Word adds your style to Quick Styles.

After you have created a new style, you may apply it on any paragraph in the document through the Quick Style gallery or the Styles pane.

4

MICROSOFT EXCEL

CHAPTER OBJECTIVES

In this chapter, we will discuss the following topics:

- ◆ *Electronic Spreadsheet (Worksheet)*
- ◆ *Excel*
- ◆ *Organization of the Worksheet: Row, Column, Cell, Cell Address and Active Cell*
- ◆ *Entering Information and Formula in a Worksheet*
- ◆ *Saving, Closing, Opening and Creating a Workbook*
- ◆ *Using a Template to Create a Workbook*
- ◆ *Aligning, Formatting and Editing Data*
- ◆ *Excel Functions*
- ◆ *Changing Column Width and Row Height*
- ◆ *Copying and Moving Data*
- ◆ *Conditional Formatting*
- ◆ *Using Date and Time*
- ◆ *Hiding and Unhiding Columns and Rows*
- ◆ *Creating Charts and Sparklines*
- ◆ *Multiple Worksheets in a Workbook*
- ◆ *Printing Worksheet and Page Setup*
- ◆ *Header, Footer, Zoom and Naming Ranges*
- ◆ *Using Statistical, Math, Financial and Text Functions*
- ◆ *Using Goal Seek and the IF Function*
- ◆ *Sorting and Filtering Data and Database Functions*
- ◆ *Inserting Picture, Clip Art, Shapes, Smart Art, Screenshots, WordArt, Text Box and Symbols*
- ◆ *Format Painter, Find and Replace and Spelling Checking*
- ◆ *Protecting Workbooks*
- ◆ *Importing and Exporting Data*
- ◆ *Saving a Workbook as Template*
- ◆ *Excel Options*

4.1 WHAT IS AN ELECTRONIC WORKSHEET OR SPREADSHEET?



An electronic worksheet or spreadsheet program is used to perform calculations, store information in the memory of a computer and display the information or the results in the required format on your computer screen. The information entered in a worksheet can be changed very easily, and when any information is changed, the worksheet program automatically recalculates results on the basis of the new information. The worksheet program can also display the results in the form of charts. The information entered in the worksheet can also be printed.

The application of a worksheet is limited only by your imagination. Some common applications of a spreadsheet are in the areas of budgets, annual reports, income statement, tax calculations, invoicing (billing), accounts payable and receivable, production and marketing analysis, investment and loan analysis, banking and other financial services, tender evaluation, scientific calculations and cost-effective analysis. Using an electronic worksheet program to prepare a spreadsheet offers several advantages, such as

- ☐ The results are accurate and quick.
- ☐ The worksheet can be quite big in size and any part of it can be viewed or edited.
- ☐ Data entered in a worksheet can be formatted in several ways to give it a professional look.
- ☐ Several mathematical, trigonometric, financial and statistical functions are built-in. All sorts of complicated calculations can be performed using these functions, facilitating rapid operation.
- ☐ Data can also be viewed in the form of numerous types of charts (graphs).
- ☐ The worksheet is saved in an electronic file, which can be retrieved and modified later, if required.
- ☐ An existing worksheet or any part of it can be merged with any existing or new worksheet.
- ☐ With the electronic worksheet program, you can easily and quickly produce reports and get answers to 'what-if' questions.
- ☐ The information stored in a worksheet can be transferred in full or part to other software programs, such as Word, Access, FoxPro, dBASE, MySQL, etc. Similarly, information stored in other software programs can also be transferred to a worksheet.

4.2 WHAT IS EXCEL?




Excel is an integrated electronic worksheet (spreadsheet) application developed by Microsoft Corporation, USA for Windows operating system as well as Mac OS X. Excel supports all features mentioned in the previous section. A few other important features of Excel are:

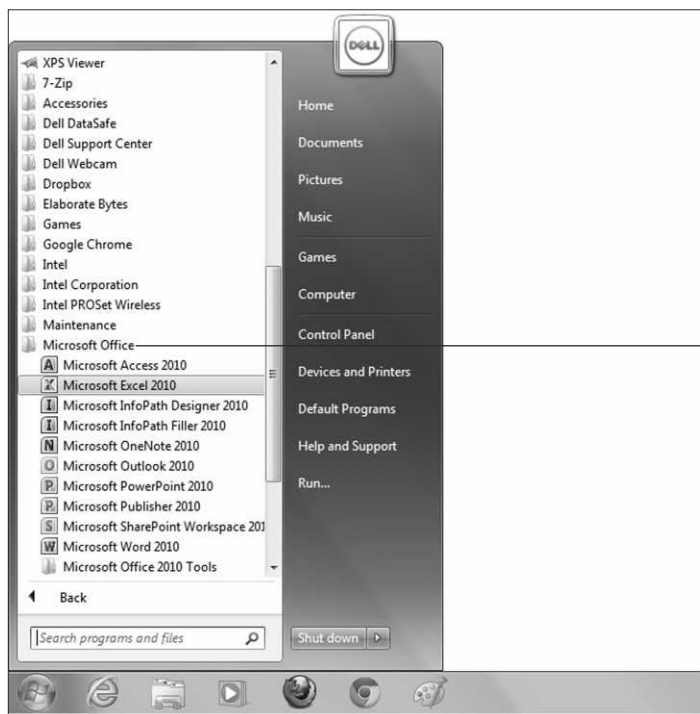
- ☐ Includes hundreds of useful functions, including date- and time-related functions and database management.
- ☐ Tools to create charts, sparklines and conditionally format data to visually analyze it.
- ☐ Each workbook file can have multiple sheets and can be saved as a webpage or PDF file.
- ☐ Includes feature, such as header, footer, and spelling checking.
- ☐ Table and Pivot table to analyze the entered data.
- ☐ Keyboard macros to automate tasks.
- ☐ Selected or all data in the worksheet can be protected with password.

Different versions of Excel, such as 3, 4, 5, 7, 97, 2000, 2002 (XP), 2007 and 2010 are available for use on the Windows operating system. The Excel program is also available for Apple Macintosh (Mac) computers. The basic features in all these versions are the same. In this book, we shall discuss important and commonly used features of Excel 2010 on Windows 7. Most of the discussion is applicable to all versions of Excel. If you use some other version of Excel, the screen displays that you get may differ slightly from those shown in the book, particularly if you use version 2003 or earlier as Excel has replaced the menu interface with the *Ribbon* interface since Excel 2007.

4.2.1 Starting Excel

Depending on how your PC is setup, you can start Excel in several ways:

- If there is an icon for Excel on your desktop, double click that icon to start Excel. The Excel icon normally looks like .
- If the Excel icon is available on the taskbar or Quick Launch toolbar on your taskbar, you can start Excel by clicking that icon.
- You may also start Excel from Windows menu. The Excel program may be located anywhere in the menu system. However, normally you will find it in the Programs/All Programs submenu, Microsoft Office or Microsoft Applications. On Windows 7, click the **Start** button on the taskbar, click **All Program** and Windows displays the list of programs installed on your computer. Click the **Microsoft Office** folder in the programs list and click **Microsoft Excel 2010**, as illustrated in Fig. 4.1 to start Excel.



Click Microsoft Office to open the list of installed Office programs. Click Microsoft Excel 2010 to start Excel.

Fig. 4.1 Starting Microsoft Excel

On starting Excel, your screen displays the opening screen of Excel, similar to Fig. 4.2. Depending on the Excel version you are using and how it is set up on your PC, your opening screen may look different from Fig. 4.2.

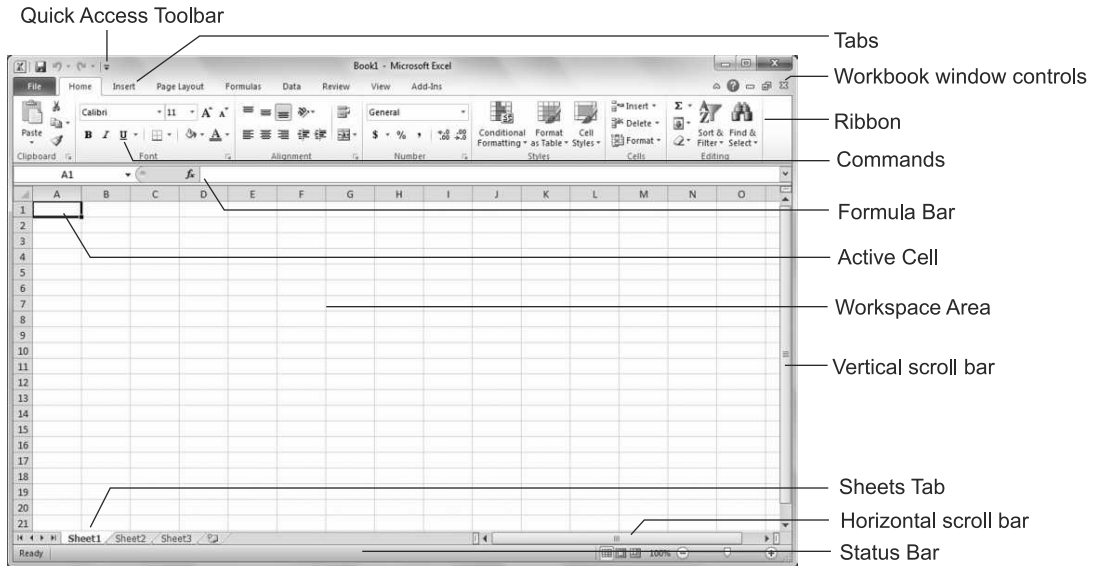


Fig. 4.2 Excel opening screen

When you start Excel, it automatically creates a new workbook—Book1. Notice that the name of the program (Microsoft Excel) and the workbook (Book1) are displayed in the *title bar* of the window. On the right side of the title bar, you find the familiar Minimize, Maximize/Restore and Close buttons to minimize, maximize/restore and close the Excel application window, respectively. A similar set of minimize, maximize/restore and close buttons below the Excel application window are for the workbook window.

Excel displays the *Quick Access* toolbar on the left end of the title bar, which contains icons for the most commonly used commands and tools, e.g., Save, Undo and Redo changes. Below the title bar, you find the familiar *ribbon* which has various tabs, such as File, Home, Insert, Page Layout, Formulas, Data, Review, View, Add-Ins, etc. The ribbon interface in Excel works exactly like in other Microsoft Office 2010 program. If you are not familiar with the ribbon interface, please refer to Section 3.2. Also, to learn how to customise the Quick Access toolbar or the Ribbon, refer to Section 3.49.

The bar below the ribbon is called the *formula bar*. Excel uses the formula bar to display information, such as the address of the active (current) *cell*, contents or the formula entered in the current cell, etc. We will format the cell in a moment.

The area below the formula bar that occupies most part of the Excel window is called the *workspace* or *worksheet area*. This area is used to enter information (data) in your worksheet. You also enter formulas here and Excel displays the calculated results in place of formulas. You also use this area to displays charts.

The workspace area is a grid of *rows* and *columns*. It has a border on the top and on the left. This border is called the *worksheet frame*. Notice that there are column letters A, B, C, etc., and row

numbers 1, 2, 3, etc., in the worksheet border. The letters along the top border designate *columns* and the numbers along the side border designate *rows*.

At the bottom left of the worksheet frame, you find the *sheets* tab, which contains a few *tabs*, marked sheet1, sheet2, sheet3, etc. In fact, each workbook file contains a number of *sheets*. By default, Excel includes three sheets in the new workbook, though you can add additional worksheets, if required, with ease. Most of the simple worksheet tasks are generally confined to a single sheet and multiple sheets are used only in complex worksheets. On the right of the sheets tab and the right side of the worksheet area are located the scroll bars.

The last line of the Excel screen is called the *status bar*. Excel uses the status bar to display useful information, such as the status of the operation in progress, e.g., opening or saving a file. The status bar can also show the status of keys, such as Caps Lock, Scroll Lock, Ins and Num Lock. It also has controls to change the worksheet view as well as the zoom level.

- The status bar is customizable—right click anywhere on the status bar to display a context menu and click to choose the controls you want to display.

Note In Excel, the document (file) in which you enter data is called the *workbook*. The sheets within a workbook are called *worksheets*. That is, you enter data in one or more worksheets of a workbook.

4.2.2 Organization of the Worksheet Area

The worksheet area (window) of the Excel window is the most important because all the data that you type, the results of calculations and charts (graphs) are displayed here. The organization of the worksheet area is discussed in this section.

Rows and Columns A worksheet is made up of *rows* and *columns*. Though the worksheet in Fig. 4.3 is displaying 10 columns and 21 rows, the actual worksheet size is significantly larger than this. An Excel 2010 worksheet can have up to 16,384 columns and over a million rows.

Row numbering in Excel is straightforward. The first row is called row 1, the second row is called row 2, the fifth row is called row 5 and the hundredth row is called row 100 and so on. The first 26 columns are referred to by letters A through Z. The 27th column is called row AA, the 28th column AB, and so on.

Note Excel can also refer to columns by numbers, however, normally, this numbering scheme is not used.

Cell and Cell Address The area formed by the intersection of a row and column is called a *cell*. As shown in Fig. 4.3, the intersection of column E and row 11 forms a cell. The cell is the smallest unit in the worksheet that is used to store data. A cell is referred to by its column-row number. For instance, in Fig. 4.3, the cell in the top left corner of the worksheet which is also the active (current) cell is referred to by 'A1'. Similarly, the cell below cell A1 is called A2. The cell formed by the intersection of column E and row 11 (see Fig. 4.3) is referred to as E11. 'E11' is also the *address* of that cell. Each cell in the worksheet has a unique address. The cell address is very important in the worksheet as it is used in formulas to refer to a particular cell.

Active Cell In a worksheet, there is a thick border around one of the cells. In Fig. 4.3, cell A1 has a border around it. This cell is called the *active* or *current* cell. Any data that you type is stored in the active cell. You can make any cell of the worksheet active by using the mouse or the keyboard. Notice that Excel displays the address of the active cell in the *Name Box* located at the left, just above the worksheet frame (See Fig. 4.3.).

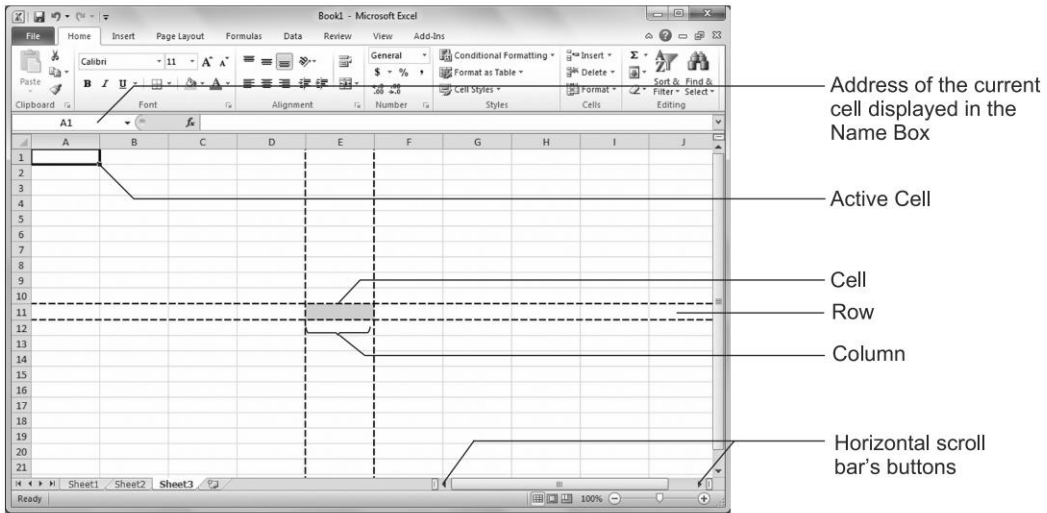


Fig. 4.3 *Components of a worksheet*

- When you click the mouse on any cell in the worksheet, Excel makes that cell active and shows a border around it. Only one cell can be active at a time, therefore, previous active cell returns to the normal state.
- If you want to make a cell active which is currently not visible in the worksheet area, use the scroll bar(s) to scroll the worksheet. You may either use the scroll buttons located at both ends of the scroll bars or the scroll box to scroll the worksheet.
- When the desired cell is visible in the worksheet area, click the mouse on that cell to make it active. If your mouse has the scroll wheel, you may rotate this wheel to scroll the worksheet.

You can also move the active cell by using the keyboard. The commonly used active cell movement keys are shown in Fig. 4.4.

<i>Active Cell Movement Key</i>	<i>Moves Active Cell</i>
←	left by one cell, i.e., to the previous column
→	right by one cell, i.e., to the next column
↓	down by one cell, i.e., to the next row
↑	up by one cell, i.e., to the previous row
Tab	right by one cell, i.e., to the next column
Shift+Tab	left by one cell, i.e., to the previous column
Shift+Enter	selects the cell above in the same column
PgDn	down by one screen
PgUp	up by one screen
Home	to first column in the current row
Ctrl+Home	to cell A1
End followed by an arrow key	to the end of the worksheet in the direction of the arrow key.
F5 (Go To)	to the specified cell address

Fig. 4.4 *Active cell movement keys*

4.2.3 Entering Information in a Worksheet

Entering information in an Excel worksheet is simple. As you know, the information in a worksheet is entered in the active cell, therefore, first you need to select or activate the cell where you want to enter the information.

- Click the required cell or use keyboard keys to select the desired cell.
- Type the required information and press the **Enter** key.
- For instance, to enter “Profit and Loss Statement” in cell A1, click cell A1, type **Profit and Loss Statement** and press the **Enter** key.

When you start typing data in a cell, two changes take place—Excel changes ‘Ready’ in the status bar to ‘Enter’ and it displays the characters being typed in the formula bar. Excel also displays two additional buttons in the middle part of formula bar. The first button (X) is called the Cancel button and the next button ☒ is called the *Confirm* or *Enter* button.

- You may click ☒ instead of the **Enter** key to confirm the data in a cell. You may also press the Tab or arrow keys to confirm the data in the cell and move the cell pointer to the next cell for data entry.

You can enter two types of data in a worksheet—*constant values* and *formulas*. A *constant value* is a fixed value which may be a *number*, e.g., 12, 5200, 90.50, etc., or *text* (also called *label*), e.g., Rajan, New Delhi, Profit, etc. Once entered, these values remain *fixed* and do not change, unless you edit the data in the cell. On the other hand, when you enter a *formula* in a cell, Excel calculates the result of that formula and displays the result in the cell. A formula may refer to one or more cells in the worksheet and its result changes when data in those cells change.

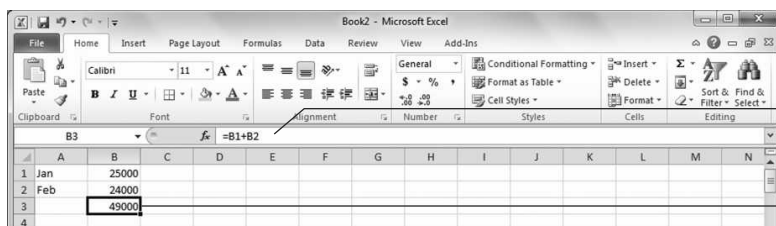
When you enter data in a cell, Excel automatically finds out if the entry is the text or a number based on what you enter. Excel treats an entry numeric, if it includes only numeric characters (0 through 9) and any of the following special characters:

+ - () , / \$ % . E e

A few examples of numeric entries are 45660.23, 12,345, +456, -45.4, 25%, \$890 and (450). Based on whether the entered data is numeric or text, Excel applies a default formatting and alignment. We will discuss formatting and alignment in a moment.

4.2.4 Entering a Formula

Consider the worksheet shown in Fig. 4.5 that displays the sum of sales figures for January and February in cell B3. To calculate the sum, you may take the help of a *formula*. A typical formula consists of one or more *operands* (data values), e.g., sales figures in Fig. 4.5.



Formula used in the active cell B3 displayed in Formula Bar

Result of the formula displayed in cell B3

Fig. 4.5 Entering a formula in a worksheet

A typical formula uses two or more operands and these are connected together by an *operator*, e.g., the formula “=40+20” uses two operands **40** and **20**, and the “+” operator. Excel uses operators to determine what operation(s) it needs to perform on operands. The operand in a formula may be a constant value, cell address or a cell range address (group of cells). With reference to the worksheet shown in Fig. 4.5, the sales figure for January is entered in cell B1 and that for February in cell B2. Accordingly, the formula for the total sale is B1+B2. In Excel, to differentiate a formula from the normal text entry, the formula always starts with ‘=’. Thus, the complete formula is **=B1+B2**, which is entered in the cell B3 where we want to display the result. As illustrated in Fig. 4.5, while Excel displays the result in the corresponding cell, it displays the formula used in the calculation in the formula bar when the cell pointer is positioned in the corresponding cell.

The cell address(es) in the formula can be typed in the upper or lower case letters; for instance, **=B6-B4**, **=b6-b4** and **=B6-b4** are the same. Besides typing the cell address in the formula, you can also click a cell, e.g., to type the formula “=B6-B4” in a cell, type **=**, click cell **B6**, type **-**, click **B4** and then press **Enter**.

Note If the cell displays the formula instead of the result, check if you forgot to type the ‘=’ sign in the beginning of the formula. Also, avoid typing **space** in the formula.

Arithmetic Operators in Formulas The formula used in cell B3 in Fig. 4.5 uses the arithmetic operator + (plus). You may use other arithmetic operators, such as – (minus), * (multiplication), / (division) and ^ (exponentiation) in the formula. The table shown in Fig. 4.6 lists arithmetic operators that you may use in Excel formulas, along with the order of *precedence*.

Operator	Operation	Precedence Number	Example	Result
()	Parentheses	1	=2+3*5 =(2+3)*5	17 25
+ or –	Identifies a number as positive or negative, e.g. +45, -A5	2	=-10	-10
%	Percentage	3	=34%	0.34
^	Exponentiation	4	=2^3	8
			=200%^2	4
*	Multiplication	5	=5*2	10
			=5*2^3	40
/	Division	5	=144/12	12
			=144/12%	1200
+	Addition	6	=10+5	15
			=100+50/5	110
–	Subtraction	6	=10-5	5
			=50-10/5	48

Fig. 4.6 Operators and order of precedence

If a formula involves more than one operator, Excel evaluates it using the order of precedence given in Fig. 4.6. However, this order can be overridden by enclosing an operation within parenthesis. For instance, consider the formula **=2^2*3-5**. Since ^ (exponentiation) has precedence over *

(multiplication) and subtraction (–), Excel first calculates 2^2 , i.e., 4. Since * has precedence over –, Excel first multiplies 4 with 3 (i.e., 12) and then subtracts 5. Thus you get $12 - 5$, i.e., 7 as the result. On the other hand, if you want Excel to first subtract and then multiply (i.e., $2^2 * (3 - 5)$), the formula should be entered by using parenthesis, e.g., $=2^2 * (3 - 5)$.

Advantages of Using a Formula As soon as you change data in any cell involved in the formula, Excel immediately recalculates and displays the new result. The facility of changing figures in the worksheet and immediately viewing their effect on the worksheet is one of the most useful features of Excel. This is particularly useful when the worksheet contains a number of interrelated figures (formulas). It can help you to perform the ‘*what-if*’ analysis. For instance, in a budget worksheet, you can find out how much the profit increases if you increase the selling price by 10% or if the raw material cost decreases by 5%. You can do this quickly by just replacing the corresponding figures in the worksheet.

Comparison Operators To compare two cell values or results of *expressions*, Excel supports the standard comparison operators, such as = (equal), > (greater than), < (less than), <= (less than or equal to), >= (greater than or equal to), <> (not equal). An example of the use of the comparison operators in a formula is “=B2>B3”, which checks if the value in cell B2 is greater than B3, and displays *True* or *False*. Normally, the comparison operators are used with the logical function IF, which is discussed in Section 4.37.

Text Concatenation Operator To concatenate two text expression, Excel supports the text concatenation operator &, e.g., if cell A1 contains “Raj” and cell A2 contains “Verma”, then the formula =A1 & A2 entered in cell D1 displays Raj Verma.

Error Message When you enter a formula that Excel does not understand or you have used invalid data in the formula, it displays a suitable error message that may help you to fix the error. All error messages begin with the # character. Here is a list of Excel formula errors.


####	This error message is not an error in real sense. It indicates that the cell is not wide enough to display the cell contents. To fix the error, simply widen the column.
#DIV/0!	This error message indicates that the formula is attempting to divide by zero. This could be due to a typing error or the denominator has somehow become zero as a result of some other formula in the worksheet.
#VALUE!	Excel displays this error message when the formula is referring to text data while it is expecting numeric data. For instance, =D1+D2 will result in #VALUE!, if D1 contains 12 and D2 contains “XYZ”.
#NUM!	Excel displays this error message when the formula refers to non-numeric data while it is expecting text data.
#NAME?	This message indicates that Excel does not recognize some part of the formula. It could be due to misspelled function name or undefined <i>range</i> name.
#N/A	Not Available. Excel may display this message when a function, e.g., VLOOKUP() cannot return any result.
#NULL!	Normally you get this error message when you forget to type a comma while specifying multiple cell/range addresses with some functions, e.g., =SUM(D1,D2 D3)
#REF!	Indicates that the cell reference used in the formula is invalid.

Besides, Excel displays the *Circular Reference* warning message when a formula entered in a cell refers to that cell address directly or indirectly.



4.3 SAVING A WORKBOOK

To preserve the worksheet data for future use, you must save your worksheet (in fact the workbook) as a disk file in the hard disk, floppy disk or USB flash drive.

- To save the workbook, click , the Save button on the Quick Access toolbar located at the top left corner of the Excel window. Alternatively, press **Ctrl+S**, the shortcut keys for the Save operation.

On using the Save command, Excel displays the Save As dialog box shown in Fig. 4.7. The Save As dialog box enables you to assign a filename to the workbook. Besides the filename, you can also select the drive and the folder where you want to store this file. The filename that you want to assign to the document has to be typed in the filename box. When Excel displays this dialog box, it automatically enters a default name, such as Book1, Book2, etc., for the current workbook. Similarly, it also selects a default folder. While normally you would change the file name to a meaningful name, if you prefer, you can also select a folder for saving the workbook. The procedure to pick a desired folder is the same as that in any other Microsoft Office or Windows application. For additional information, refer to Section 3.4.

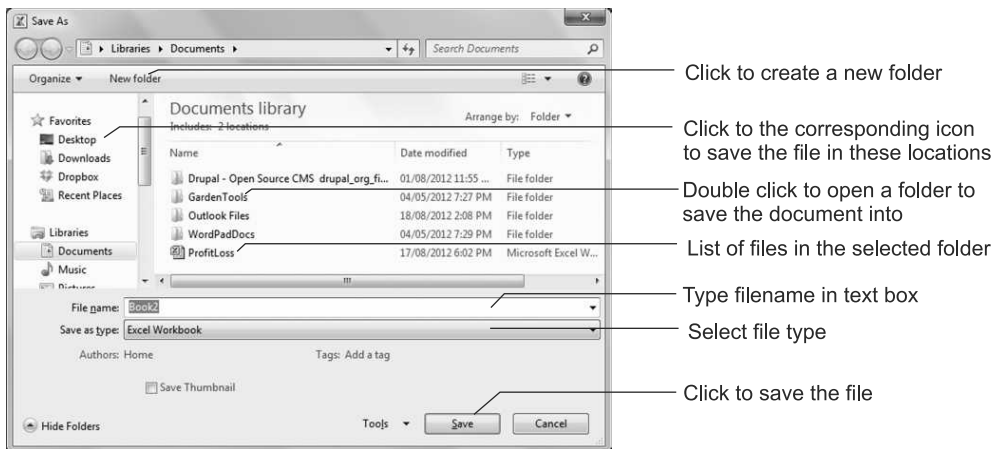


Fig. 4.7 Save As dialog box

- After entering the filename in the **File Name** box and choosing the required folder, click the **Save** button to save the file.
- By default, Excel saves the workbook files in the Excel 2010 format. However, if you need to save the file in some other format, e.g., Excel 97-2003, CSV (Comma Separated Variable) or PDF, click against the 'Save As' Type box to choose the required file type before clicking the Save button, as illustrated in Fig. 4.7.

4.4 CLOSING A WORKBOOK



- After you have finished working on a workbook, if you want to close it, press **Ctrl+W**. An alternate way to close the file is by clicking **Close** in the Backstage view, which you can open by clicking the **File** tab.

If you try to close a workbook that has unsaved changes, Excel prompts you to save the workbook before closing it. Of course, you can close the workbook without saving the changes, if you prefer.

4.4.1 Closing the Excel Application

After finishing working on your workbook, if you wish to close the Excel application:

- Click the **File** tab to display the backstage view and then click **Close**. Alternatively, press **Alt+F4** keys or click the close button (X) located at the extreme right of the title bar to close Excel.
- Another way to quit Excel is by clicking the Excel application button (X) located at the top left corner of the Excel window to display the *Application* menu and then clicking **Close**.

4.5 OPENING AN EXISTING WORKBOOK FILE



Excel can help you to open an existing workbook with ease. If you want to open a workbook that you have edited recently, Excel can help you to open it through the Backstage view.

- Click the **File** tab to display the Backstage view and then click **Recent** in the left pane.

Excel displays a list of recent workbooks in the middle pane shown in Fig. 4.8.

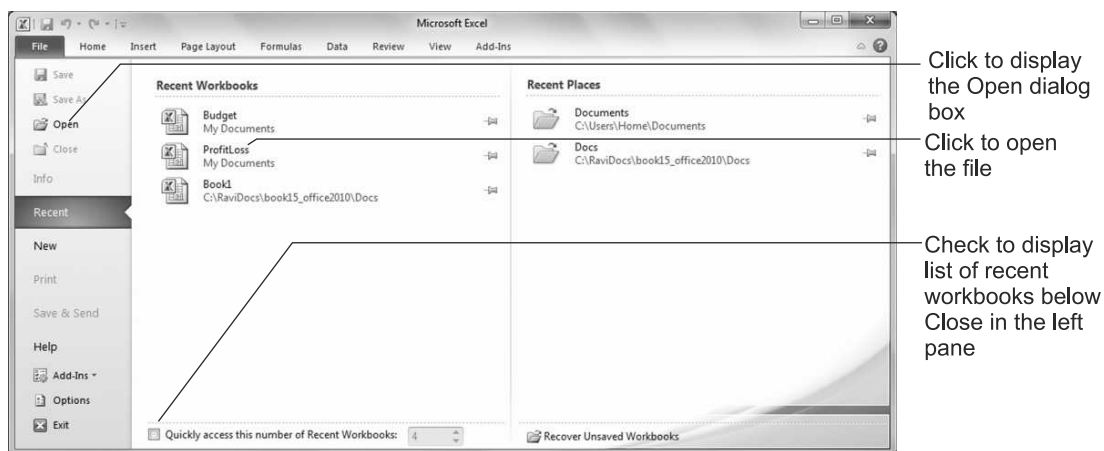


Fig. 4.8 Opening a workbook in Backstage view

- If the workbook you want to open is listed in the Recent Documents box, you may click to open it. Excel can also display the list of recent workbooks in the left pane below *Close* in the left pane if the “Quickly access this number of Recent Workbooks” checkbox in the middle pane is checked.
- If the workbook you want to open is listed in the Backstage view, click to open it, otherwise, click **Open** to display the Open dialog box shown in Fig. 4.9.

Tip You can press **Ctrl+O** to display the Open dialog box from any tab.

The filenames displayed in the list box are only from the selected folder. For instance, in Fig. 4.9, the Open dialog box is displaying workbook files from the Documents Library folder.

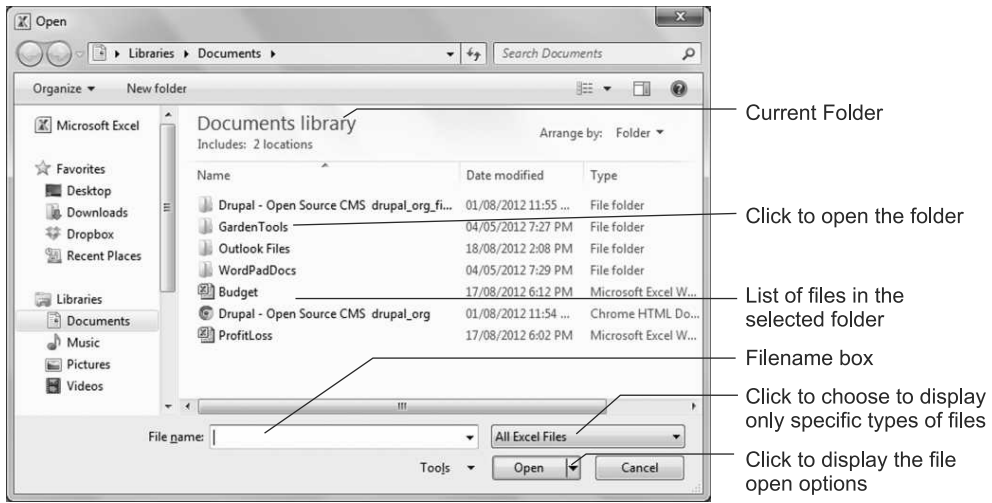


Fig. 4.9 Opening a workbook in the Open dialog box

- To display files available in other folders, you need to open the desired folder. To open any folder that is displayed in the Open dialog box, double click it. For example, in Fig. 4.8, you may double click **GardenTools** to display workbooks available in this folder.
- Similarly, click the icon displayed in the left pane to display files in that location/folder, e.g., click **Desktop** to display workbooks available on your desktop.
- To open any workbook whose filename is displayed in the Open dialog box, double click the filename or type the filename in the File Name box and click the **Open** button.

4.5.1 Workbook Opening Options

Excel can help you to open a workbook in a few different modes. You may choose these options by clicking the down-arrow on the right side of the Open button, as illustrated in Fig. 4.9. The *Open Read-Only* mode opens the workbook and allows you to modify it; however, you cannot write the changes back to the original workbook. The *Open as Copy* option makes a copy of the workbook and opens the copy for editing. The *Open and Repair* is used in some rare situations when a workbook has become corrupted and can't be opened in the regular way.

4.5.2 Opening Workbooks from Earlier Versions of Excel/Other Programs

Excel can open workbook files created in earlier versions of Excel as well those created by other programs. While it seamlessly opens workbooks created in earlier versions of Excel, to open files created in other programs, click All Excel Files (see Fig. 4.9) and choose the corresponding file type to display the matching filenames. Then click the filename to open it.

4.6 CREATING A NEW WORKBOOK



- To create a new document, either press **Ctrl+N** keys or click the **File** tab to open the Backstage view and click **New**.

On pressing Ctrl+N, Excel immediately creates a new workbook and assigns it a temporary name, such as Book2, Book3, etc. This workbook, based on the Normal *template*, is similar to the blank workbook Excel creates when it starts. However, if you click **New** in the Backstage view, Excel displays the list of templates in the middle pane and the preview of the selected template and a Create button in the right pane, as shown in Fig. 4.10.

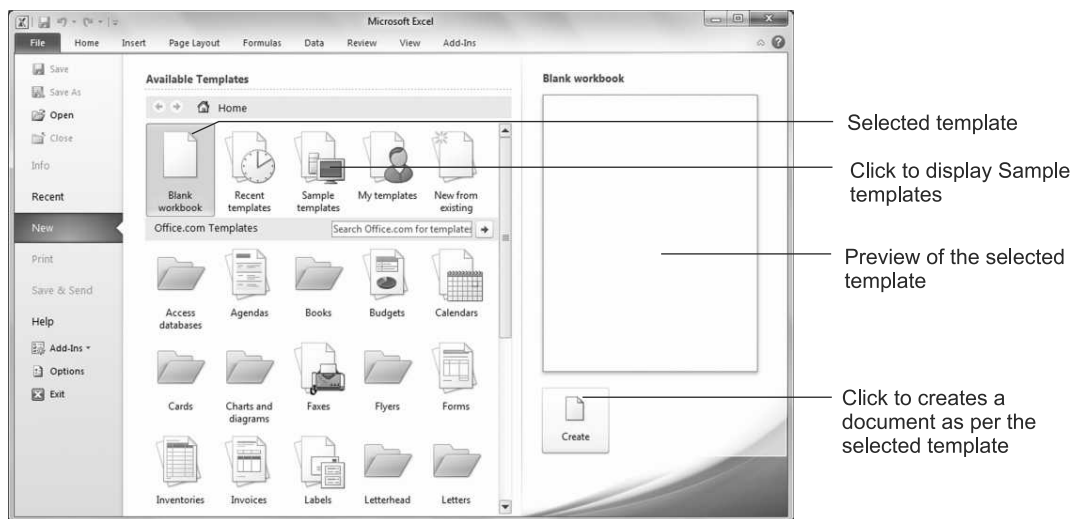


Fig. 4.10 Creating a new workbook

The Available Templates box displays the templates available for use. A *template* is a special kind of workbook with predefined page layout and formatting. Optionally, it may also contain data. In other words, a template performs like a framework around which Excel creates a workbook. For instance, a Billing Statement template may already contain the name, address and phone number of the company. The Excel templates are available under various categories, such as Blank Workbook, Sample Templates, Agendas, Budgets, etc. In addition, you may search for professional templates at **Office.com**, Microsoft's online resources and download these to your computer.

By default, Excel selects the Blank Workbook template. If you click the Create button while Blank Template is selected, it creates a blank workbook based on the normal template. When Excel is installed, it automatically installs a few templates.

- Click **Sample Templates** to display the list of sample templates available in your PC. (See Fig. 4.11.)
- On clicking a template in the middle pane, Word displays its preview in the right pane. Click the **Create** button in the right pane to create the workbook. Figure 4.12 displays a worksheet created using the Billing Statement template.

After you create a worksheet based on a template, you can enter data and change its formatting as per your requirements. Advanced user can customise a template or save an existing workbook as a template.

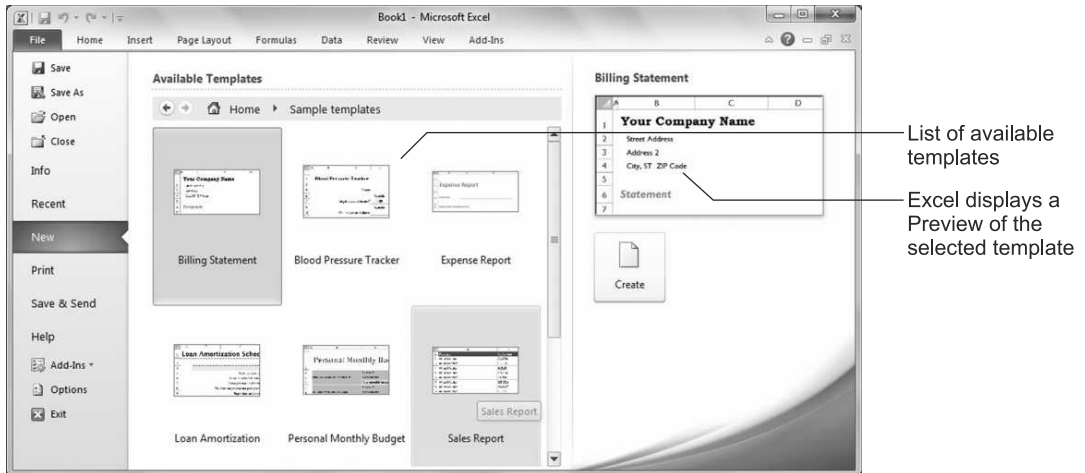


Fig. 4.11 Templates available under the Sample Templates category

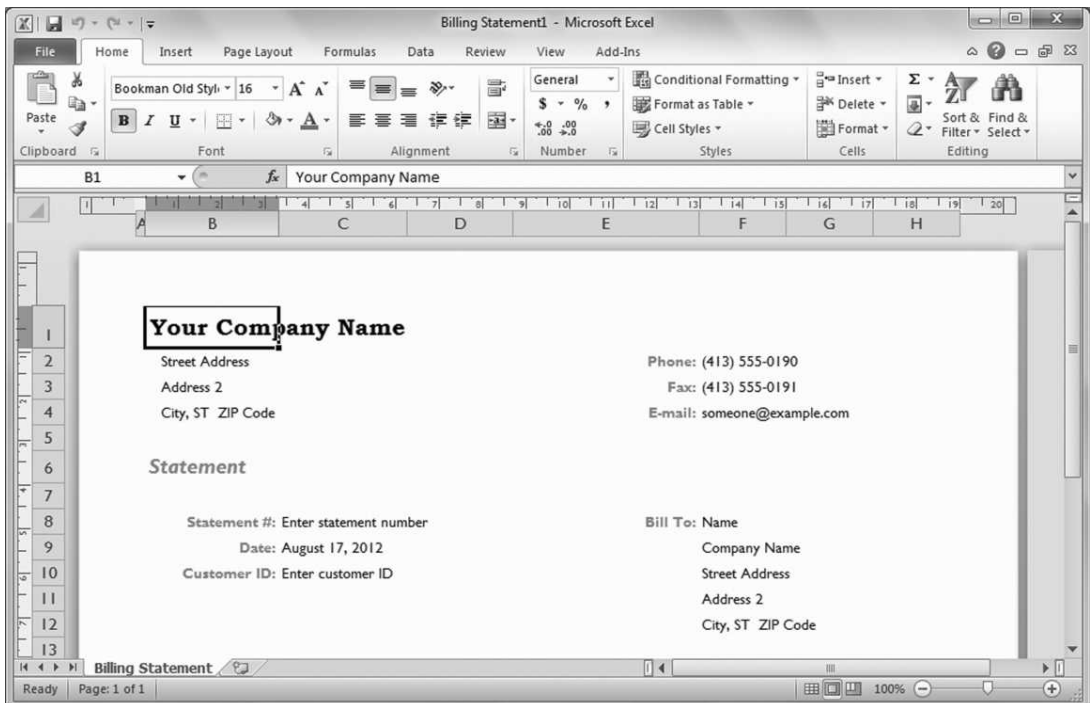


Fig. 4.12 A worksheet created using the Billing Statement template



4.7 ALIGNING DATA IN CELLS

When you enter data in a worksheet, by default Excel left aligns the text entries and right aligns the numeric entries. To change the alignment of data in cells, you can use the alignment controls available in the Alignment group on the Home tab, as shown in Fig. 4.13.

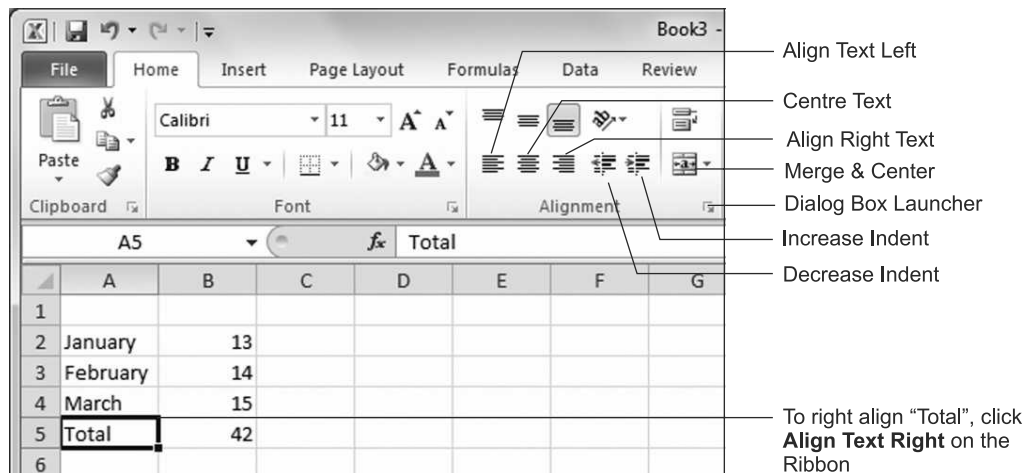


Fig. 4.13 Alignment controls on the Alignment group on the Home tab

As illustrated in Fig. 4.13, the first three controls in the lower row in the Alignment group are used to align the cell data left, centre and right, respectively. For example, to right align "Total" in cell A5, click cell A5 and then click . Similarly, you can use **Center Text** to center contents of the current cell or the selected cells. If you want to indent the text in a cell, use **Increase Indent**, and to reduce the indent, click **Decrease Indent**.

Besides changing the horizontal alignment, you can also change the vertical alignment of the cell contents. By default, Excel vertically aligns data to the bottom of the cell. Notice that the Bottom Align () is highlighted in Fig. 4.13. When you use different font size characters in various cells in a row, you may use Middle Align () to center the text between top and bottom border of the cell, or Top Align () to vertically align text to the top of the cell.

The Format Cells dialog box provides an alternate way to control the alignment of data in the cell. You can open this dialog box by clicking the Dialog Box Launcher located at the bottom right of the Alignment group. (See Fig. 4.13.) The Format Cells dialog box may be used to control all aspects of the cell formatting, including alignment of data in cells. Figure 4.14 displays the Alignment tab of the Format Cells dialog box.

- To change the horizontal alignment of text for the current or selected range of cells, click the Horizontal drop-down list box and choose the desired alignment.

The Vertical drop-down list box controls the vertical alignment of data in a row. *Wrap Text* is a useful option that displays long text that cannot fit in the cell as multi-line text; it automatically increases the row height as required. Another useful formatting option available in the Format Cells dialog box is the orientation of text in a cell. This option can help you to display text at an angle, e.g., at 45 or 90 degrees, as illustrated in Fig. 4.15.

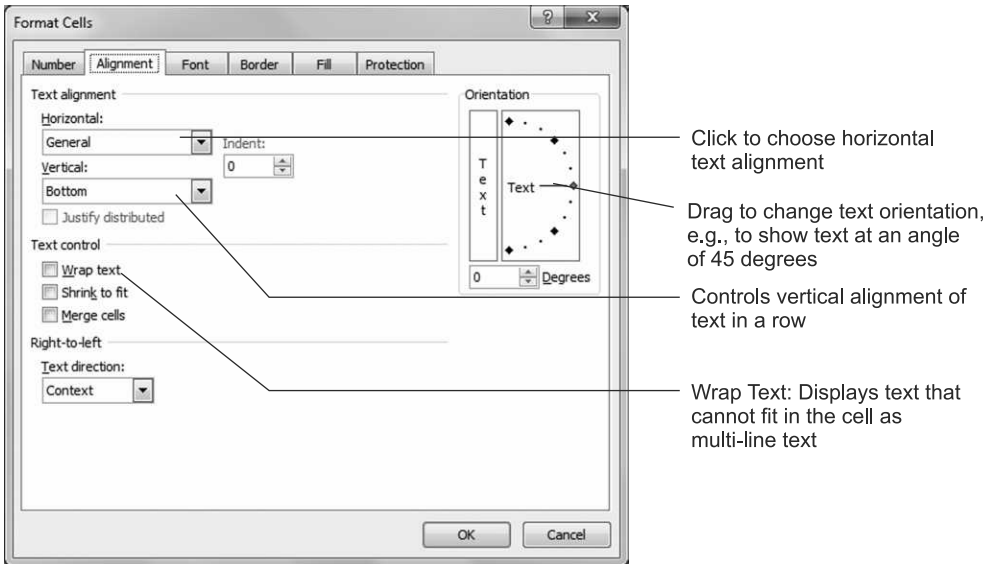


Fig. 4.14 *Format Cells dialog box*

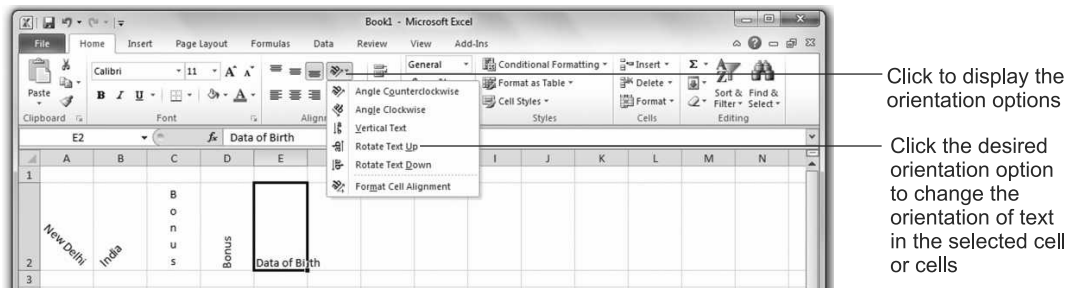


Fig. 4.15 *Changing the orientation of text in cells*

- To change the orientation of text, either drag the Text Pointer or directly type the desired angle in the Degrees box. An alternate way to select the text orientation is by clicking the Orientation (Orientation icon) in the Alignment group and then click the desired orientation options from the menu, as illustrated in Fig. 4.15.

4.8 FORMATTING DATA IN CELLS



To give a profession look to your worksheets, you may format the cell data in several ways. For instance, you can change the font and font size, apply text styles, such as bold, italic and underline, text colour and background color, etc. You can change the formatting of cells using individual commands or apply one of the several built-in styles. First, let us learn to use the individual commands and then we will learn to apply the built-in styles. You can format the data in a cell or range of cells.

- To format a single cell, you need to make it active by either clicking that cells or using keyboard.
- If you want to select multiple cells, i.e., range of cell, also known as *range*, drag the mouse to select the desired cells. If you want to use keyboard to select the range, press and hold the Shift key and then press the arrow keys.

After selecting a cell or the range, you can apply any formatting command on the text in the selection.

4.8.1 Bold, Italic and Underline Styles

- To apply the bold, italic and underline styles on the selected range, click the corresponding controls in the Font group on the Home tab, as illustrated in Fig. 4.16.

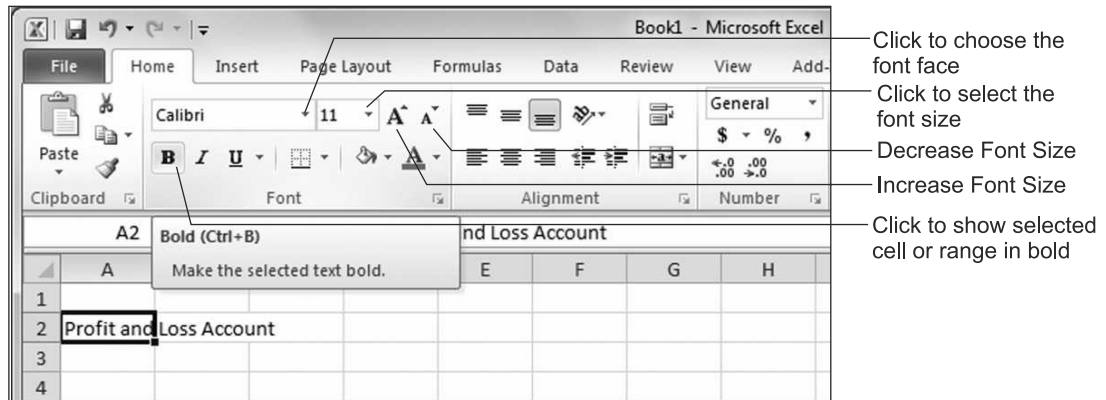


Fig. 4.16 Formatting cell data

The lower part of the Font group has controls to apply bold, italic and underline styles. The use of these controls is similar to that in the Microsoft Word. You may apply more than one style on the data.

- To remove an applied style, click the corresponding button again. You may also use the standard keyboard shortcuts to apply these styles, e.g., **Ctrl+B** for bold, **Ctrl+I** for italic and **Ctrl+U** for underline.

4.8.2 Changing the Font Size

When you type text in the cells of a worksheet, all characters are of a *pre-defined* size. In Excel, the character (font) size (in fact height) is specified in *points*. (72 points equal 1 inch.) The typical character size used in Excel is from 8 to 12. Excel displays the size of the characters for the data entered in the current cell in the Font size box in the Font group. In Fig. 4.16, '11' displayed in the Font Size box indicates that the font size for the characters in the current cell is 11.

- To change the size of characters for a cell, make that cell active and click the down-pointed arrow located on the side of the Font Size box and choose the desired font size. You may also directly type the required font size in the Font Size box.
- To select the next font size, click **Increase Font Size** located next to the **Font Size** box. (See Fig. 4.16.) Similarly, you can click **Decrease Font Size** to decrease the font size by one.

4.8.3 Changing Font

Font refers to the shape or typeface of characters. The same character can be printed in different shapes and styles and each particular shape and style of the character set is given a *font name*, such as Times New Roman, Arial, Courier, Letter Gothic, etc. You can show the text in a cell in any font available in Windows in your PC. Excel displays the Font used on the data in the active cell in the Font group on the Home tab, as shown in Fig. 4.16.

- To apply a new font on the current or selected cells, click the drop-down arrow on the right side of the Font Name box to display the list of available fonts in a Font dropdown box, as shown in Fig. 4.17.
- When you hover the mouse on a font in the list, Excel displays a preview of the font on the selected range. To apply a font on the selected cell(s), click the corresponding font name in the Font dropdown list.

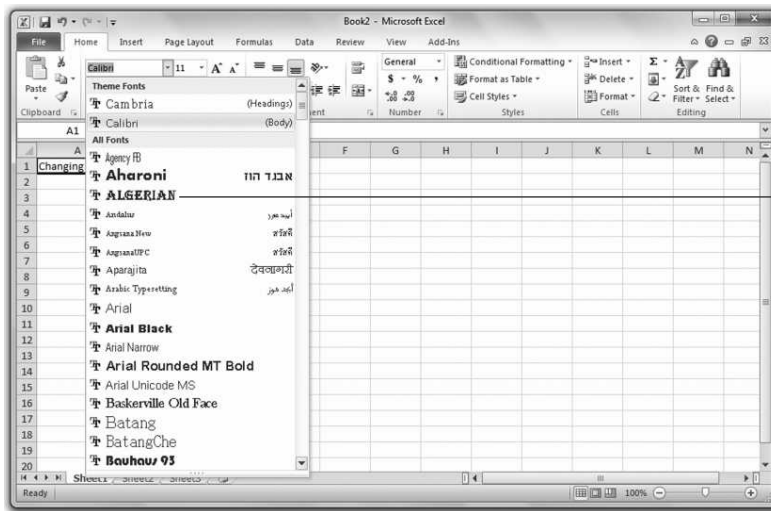




Fig. 4.17 Changing font

4.8.4 Changing Font Color and Cell Fill Color

By default, Excel displays the text in the cell in black color against white background, however, you can change the text color (Font Color) and background (Cell Fill Color).

- To change the color of the text in the selected cell(s), you may use the **Font Color** button, which looks like . On clicking the **Font Color** button, Excel applies the color of the thick underline on the button on the selected text.
- To choose a different color, click the down pointing arrow on the right of the button, and Excel displays a *Color Palette* to choose the color.
- To change the cell background for the selected cell(s), click the down pointing arrow to the right of the  (Fill Color) to display a *Color Palette* as illustrated in Fig. 4.18. Now click the desired color for the cell background. To remove the applied background color, click **No Fill**.

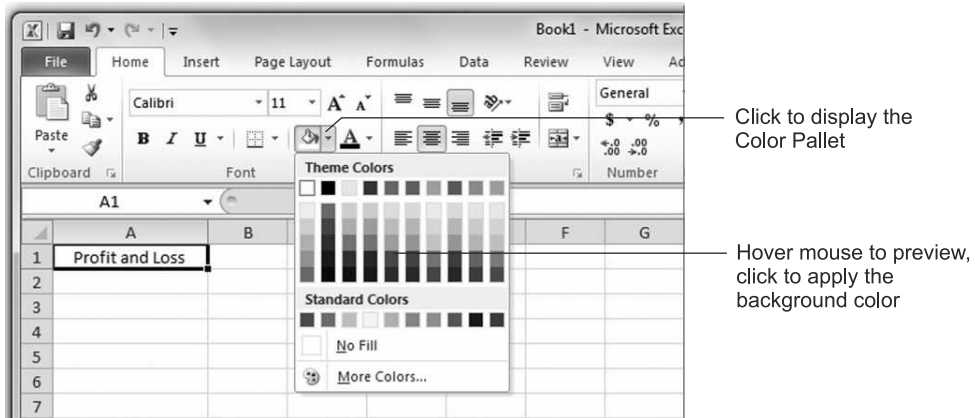


Fig. 4.18 Applying background color to cells

Note You may also change style, font, font size, font color, fill color and other cell formatting options through the Format Cells dialog box. To open this dialog box, click Dialog Box Launcher located at the bottom right corner of the Font group on the Home tab.

4.8.5 Formatting Cells using the Mini Toolbar

The Mini toolbar provides a convenient place to find commonly used formatting commands.

- To display the Mini toolbar, select some text in a cell or right click the cell, cells or other objects.
- The Mini toolbar with common formatting controls, such as Bold, Italic, Font, Font Size, Font Color, Border, Increase Decimal, Decrease Decimal, Currency Format, Percentage Style, etc., is shown in Fig. 4.19. Click the corresponding control to apply it on the current or selected cells or object.

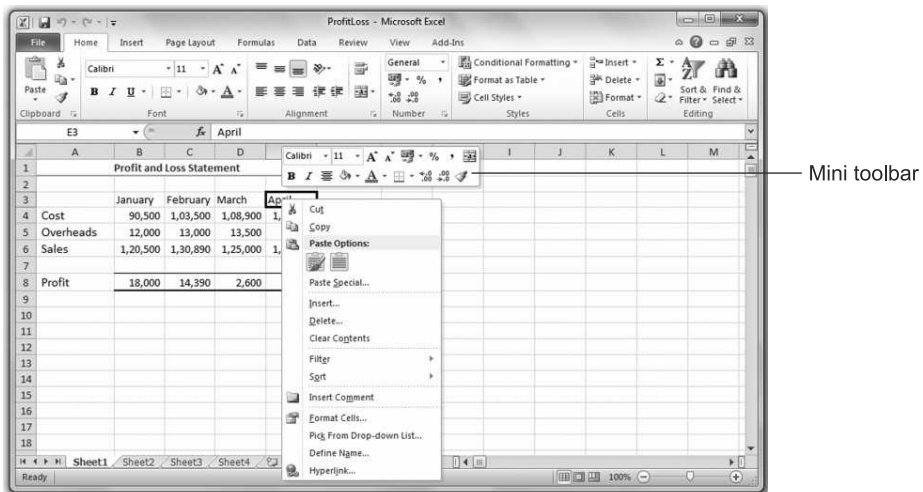


Fig. 4.19 Worksheet displaying a Mini toolbar

Notice that when you right click, besides displaying the Mini toolbar, it also displays a context menu which contains a number of useful commands. We will discuss some of these commands later in this chapter.

4.8.6 Formatting Cells using Built-in Styles

Excel has several predesigned built-in styles that you can apply on a cell or range of cells to quickly give beautiful look to your worksheet. After you have selected the cells you want to format using the built-in styles, follow these steps:

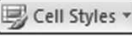
- Click  in the Styles group on the Home tab and Excel displays the Styles gallery, as shown in Fig. 4.20.




Fig. 4.20 Applying built-in styles on cells

- Hover the mouse on a *style* to preview it on the selected cell(s) or click to apply it on the selected cell(s).

Note While normally you format cell or range after you have typed data, however, you may format a range before you type any data. In that case, when you type data in that range, the data would appear in the applied format.

4.8.7 Formatting Cells as Table

Excel can help you to quickly format a range of cells and quickly convert it into a professional looking table. Excel has several predefined table styles that you can apply on the table data entered in a worksheet. Have a look at the two tables shown in Fig. 4.21; the second table has been formatted using Excel's predefined table style.

- To apply the table style, click any cell in the table range, e.g., cell B4 in the sample worksheet shown in Fig. 4.21 and then click .
- Excel displays a gallery containing various table styles you can apply. Click any style and Excel selects the data for the table and displays the Format As Table dialog box as shown in Fig. 4.22.
- Click **OK** to confirm the data for the table and Excel applies the table style on the data.
- Excel displays the **Table Tools** tab on the Ribbon which includes the Table Styles gallery. You can hover your mouse on any style to preview its effect on the table or click to apply.

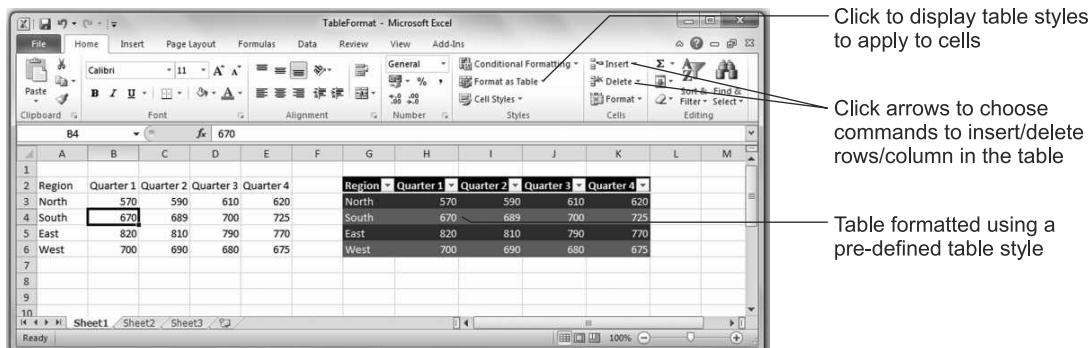


Fig. 4.21 A table formatted using a predefined table style

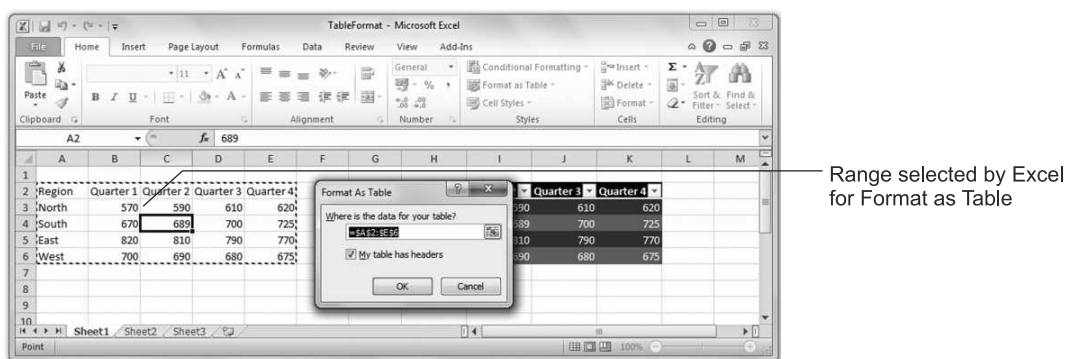


Fig. 4.22 Format As Table dialog box


Notice the arrows located in the header columns of the table. These may be used to filter the data in the table. Filtering is discussed in Section 4.39.

- If you want to insert a blank table in your worksheet, click the **Insert** tab, click **Table** in the Tables group and then drag mouse to define the table range.
- To insert/delete rows or columns in the table, click the arrow to the right of **Insert** and **Delete** in the Cells group on the Home tab (See Fig. 4.21) and choose the corresponding command.

4.9 FORMATTING NUMBERS





Excel allows the numbers entered in the worksheet or numeric results of formulas to be formatted in several different ways. For example, you can show 123456.23 entered in a cell as 123,456.23, \$123,456.23, 123,456.2, ₹123,456.23, Rs123,456, etc., by applying suitable formats on the cell. For applying commonly used formats, Excel has the corresponding buttons in the Number group on the Home group on the Ribbon. For applying other formats, you may use the Format Cells dialog box.

- Assuming that the current cell contains 123456.23, if you click  (Comma Style) in the Number group on the Home tab, Excel modifies the display to insert a comma at the thousand, million, billion positions in the number. By default, Excel follows the American way of writing numbers.)

Accordingly, you would see 123,456.23 in the cell. However, if you have selected English (India), Hindi (India) or a similar format in Windows' **Region and Language**, you may see 1,23,356.23 instead of 123,456.23.

Note If you see "#####" in the cell instead of the number, increase the column width. See Section 4.12 for more information.

- To decrease the number of decimal digits displayed in a number, click  (Decrease Decimal) in the Number group. Similarly, click  (Increase Decimal) to increase the number of decimal digits in a displayed number.

Besides applying the numeric format on a single cell, you may also apply it on a range that may include any number of cells—just select the required range prior to clicking the numeric format button.

4.9.1 Selecting Indian Format

If you have not already selected Indian format in Windows' Region and Language, you may like to select it as it would result in Excel (and other Microsoft Office applications) to use Indian way of grouping digits in numbers, ₹ as the currency and display dates in Indian format.

- Click the **Start** button on the taskbar to open the Start menu and then click **Control Panel** to display the Control Panel window.
- Click **Change Keyboards or other input methods/Region and Language** and Windows displays Region and Language dialog box as shown in Fig. 4.23. Click the **Format** tab if required.

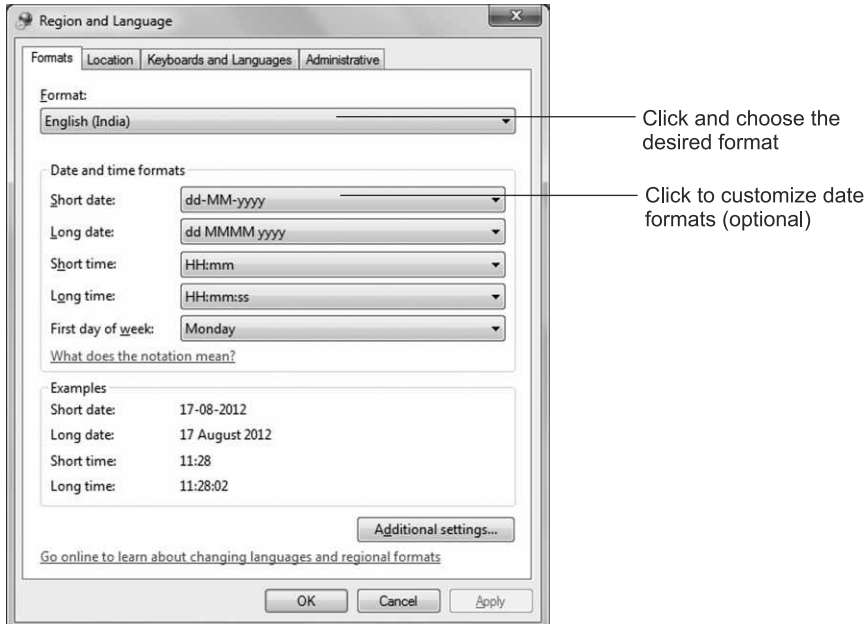




Fig. 4.23 Choosing format for displaying numbers, currency and dates

- Click the **Format** control to display the language format list and click **English (India)**.
- Click the **Apply** button and then click **OK** to close the Region and Language dialog box.

4.9.2 Applying the Currency Format

The currency format prefixes or suffixes the currency symbol to the numeric data. For instance, it can display 123456.34 as ₹1,23,456.23, Rs 123,456.34 or \$123,456.34. The currency format is the comma format plus the currency symbol.

- To apply the currency format on a range, select the range and then click the Accounting Number Format button located in the Number group on the Home tab. This button looks like  or .
- While the Accounting Number Format button applies the default currency symbol, if you want to choose a different currency symbol, e.g., €, £ or ¥, click the arrow button on the right side of the button and click the desired symbol.

Another way to apply the currency format and/or to change the currency symbol is through the Format Cells dialog box, which you may open by clicking the dialog box launcher button located at the bottom-right corner of the Number group on the Home tab.

4.9.3 Displaying Negative Numbers

By default, Excel displays negative numbers in regular format, -245. However, many accounting programs display negative numbers in red color or within parentheses (245). Excel offers a few choices to display negative numbers.

- Select the cell or the range that you want to format. Then click **Dialog Box Launcher** located at the bottom right corner of the Number group on the Home tab to display the Format Cells dialog box.
- Click the **Number** tab in the Format Cells dialog box, click **Number** in the Category list to display options for displaying negative numbers. Now click the desired format for negative numbers, as illustrated in Fig. 4.24. The custom category may be used to define and apply custom formats.

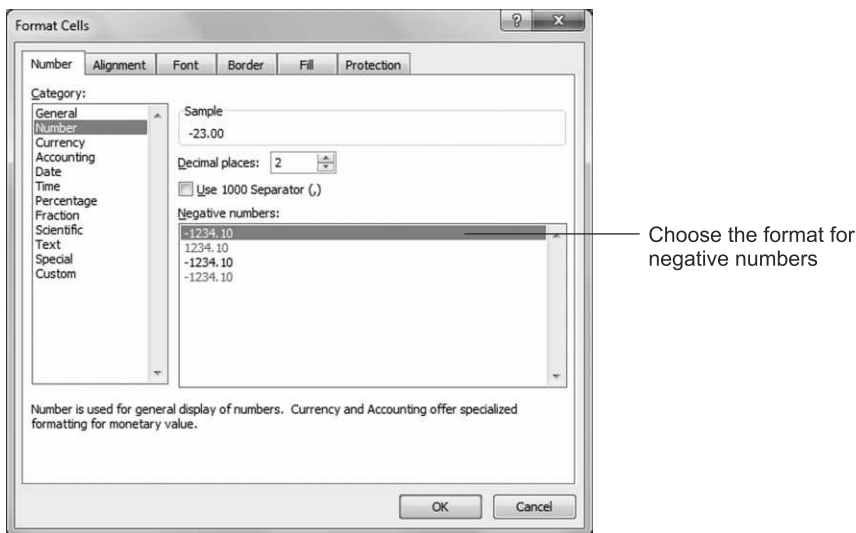


Fig. 4.24 Customizing the appearance of negative numbers

4.9.4 Fixed Number of Decimal Places

In this format, Excel always displays a fixed number of decimal places with the number. For instance, you can format a range to display 2 decimal digits. In that case, if you enter a number in that range without decimal digits or with only one decimal digit, Excel automatically adds the required number of decimal digits to show the number with two decimal digits. If you enter a number with more decimal digits, Excel rounds off the number. This is illustrated in Table 4.1.

Table 4.1 *Numbers with more decimal numbers*

<i>NUMBER ENTERED</i>	<i>DECIMAL DIGITS USED</i>	<i>DISPLAYED IN CELL AS</i>
31545	2	31545.00
5.1	2	5.10
23.346	2	23.35
-23.4	2	-23.40
0.15	4	0.1500


- To display fixed number of decimal places for the selected range, open the Format Cells dialog box and click **Number** in the Category list. (See Fig. 4.24).
- Choose the desired number of decimal places in the **Decimal Places** box and click **OK**.

4.9.5 Percentage Style

The *Percentage style* displays the value of the cell as percentage and suffixes the percentage sign (%) after the number. Some examples of this style are given in Table 4.2.

Table 4.2 *Percentage style*

<i>NUMBER ENTERED</i>	<i>DECIMAL DIGITS USED</i>	<i>DISPLAYED IN CELL AS</i>
0.15	0	15%
0.23	2	23.00%
-0.1255	2	-12.55%

- To format a cell in the Percentage style, select the cell click  in the Number group on the Home tab. Alternatively, you can directly type the number in the percentage style in the cell. For example, to show '12%' in a cell, you can type **12%** in the cell.

4.9.6 Scientific Style

The Scientific style is used to display very small or large numbers. With this format, Excel displays numbers in scientific notation. For instance, 100000 may be displayed as 1.00E+05 and 0.000067 as 6.70E-05.

- To apply Scientific style on the selected cell/range, click the down pointing arrow to the right of the Number Format list box to display the list of formats and click **Scientific**, as illustrated in Fig. 4.25.

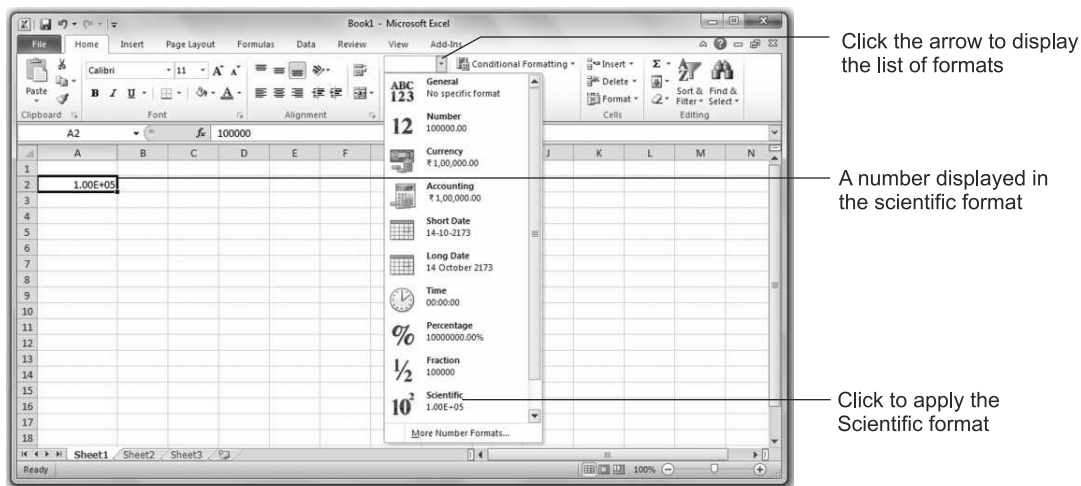


Fig. 4.25 Applying Scientific format

4.10 EDITING DATA IN A CELL



While creating a worksheet, you often need to edit data in a cell. There are two ways to edit data in cell—you can edit the data in the cell or in the formula bar.

- To edit data in a cell, double click the cell that contains data you want to edit. If the cell you want edit is the active, you may press **F2** to put in the edit mode. Excel displays the cursor in the cell. Now you may use the usual editing keys, such as Del, Backspace and arrow keys to move cursor and edit data in the cell.
- You can edit the contents of the active cell in the Formula Bar; click in the Formula bar and edit data in the usual way, as illustrated in Fig. 4.26.

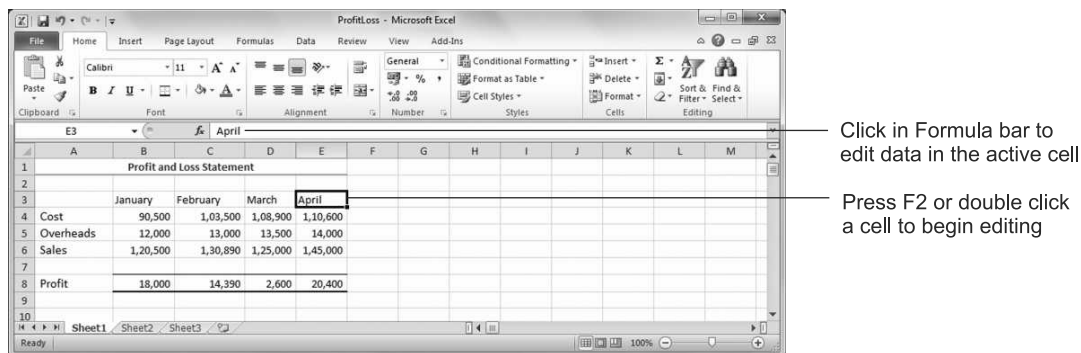


Fig. 4.26 Editing data in a cell




- After you have modified the data in the cell or Formula, press **Enter** to confirm changes or press **Esc** to cancel editing changes.

4.10.1 Replacing or Deleting Data in a Cell

- To replace the data in a cell with entirely new data, make that cell active, type the new data and press **Enter**.
- If you need to delete data entered in a cell, make the cell active and press the **Del** key.

4.10.2 Undoing and Redoing Actions

Sometimes, after editing data in a cell or after making some other change in the worksheet, you realize that you have made a mistake and you want to go back to the previous stage.

- To undo the last action, click  on the Quick Access toolbar or press **Ctrl+Z**.
- To undo several actions in one go, click the arrow to the right of  and Excel displays a list of actions it can undo. Now click an action in the list and Excel will undo all actions up to the clicked action.
- You can even undo your undo actions. To do so, click  on the Quick Access toolbar or press **Ctrl+Y**.

4.11 EXCEL FUNCTIONS



Consider a case when you need to add the monthly sales figures for 12 months to arrive at the sales figures for the entire year. Assuming that these figures are entered in consecutive columns starting from cell B6, you may use the following formula:

`=B6+C6+D6+E6+F6+G6+H6+I6+J6+K6+L6+M6`

Typing a formula involving so many cells becomes difficult and error-prone. In such cases, you can use the built-in *functions* of Excel, e.g., SUM may be used to add numbers entered in a *range* of cells. An Excel function is a built-in formula to perform a predefined calculation or returns a predefined value, e.g., the current date or the mathematical constant *pi*. Excel functions can perform several complex tasks, as you will see in the later part of the chapter. Most functions operate on a group (range) of cells.

4.11.1 What is a Range?

In Excel, a *range* is a rectangular area of cells in the worksheet. A range may include just a single cell, a number of consecutive cells in a row or column, or cells from consecutive rows and columns. A range may include cells from multiple rows and columns; however it must form a rectangle in order to be valid.

In Excel, a range is defined by specifying its first and the last cell. For example, in Fig. 4.27, the range that contains cost figures for January – April is from cell B4 through E4. In Excel, this is specified as B4:E4, B4..E4 or B4..E4. When a range includes multiple columns and rows, the opposite corner cells are used to specify it.

4.11.2 Using a Range with SUM

The SUM is a built-in function that calculates the sum of a range of numbers. With reference to Fig. 4.27, here are the steps to calculate the sum of cost figures entered in the range B4:E4 in cell F4:

- Click cell **F4**, type the formula `=SUM(B4:E4)` and press **Enter**. Notice that as you start typing the characters after typing “=”, Excel may display a list of functions matching the entered characters

if the *AutoComplete* option is on. You may double click a function name to ask Excel to enter it for you.

Excel displays the result in cell F4, while the formula bar displays the formula used in the calculation.

4.11.3 Specifying a Range by Mouse

Instead of typing the actual range address (e.g., B4:E4 in the previous example), you can specify it with mouse. Assuming that we want to calculate the sum of cost figures in cell F4, we need to perform these steps:

- Click cell F4 and type **=SUM(**
- Now click the starting cell of the range, i.e., B4 and drag the mouse to cell E4. Notice that as we drag the mouse, Excel highlights the range and displays it with the SUM function, as illustrated in Fig. 4.27.

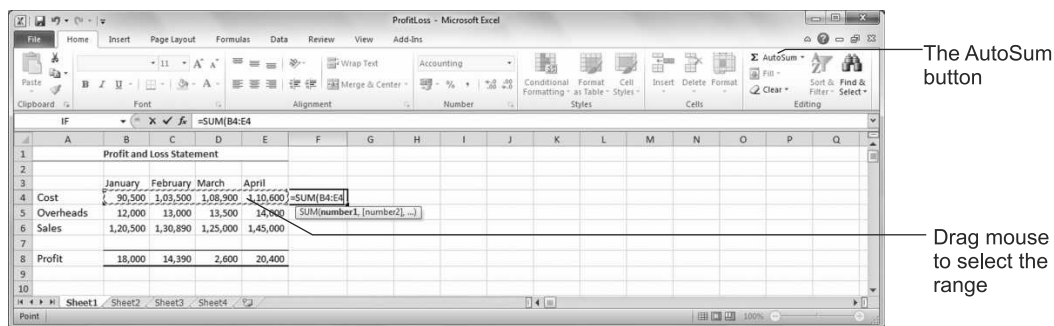





Fig. 4.27 Selecting a range for SUM by dragging the mouse

- Ensure that the highlighted range includes the correct range. If required adjust the range by dragging the mouse to the correct range and then press **Enter**, and Excel displays the result of the SUM function in the cell.

4.11.4 Using the AutoSum Button

Since the SUM function is frequently used in worksheets, Excel includes  (AutoSum) in the Editing group on the Home tab. (See Fig. 4.27.)

- After selecting a cell and pressing , Excel automatically determines and highlights a range for the SUM function. If the range selected by Excel is what you want to use, just press **Enter** to get the result.
- If you want to use a range different from that suggested by Excel, click the mouse in the starting cell of the desired range and then drag the mouse to select the range. Finally, press **Enter** to display the result.

Note If you want to find minimum, maximum, average, count of values in a range, click the arrow on  and choose the corresponding function. Excel contains hundreds of built-in functions. We would discuss additional commonly used functions later.

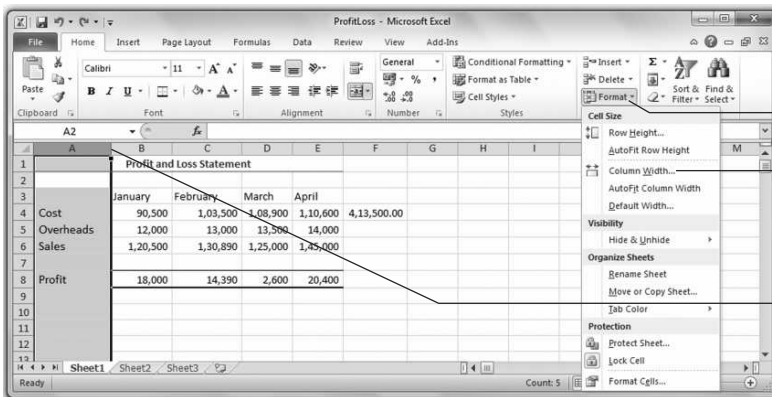


4.12 CHANGING COLUMN WIDTH AND ROW HEIGHT

When you enter a text entry in a cell which is wider than the cell width, Excel can display only partial data in the cell. If the cell in the next column is empty, Excel allows the cell to borrow the space from the next cell to display the remaining text. However, if the next cell is not empty, Excel cannot borrow space from the next cell, therefore, it ends up displaying only partial data in the cell. While displaying numeric data or dates (to be discussed), if the column width is not sufficient to display the complete data, Excel displays “#####” in the cell instead of displaying partial data. When Excel truncates the cell contents or displays “#####” in the worksheet, it only affects the display of the worksheet. The actual data stored in the cell is not changed. If you increase the column width or reduce the font size, Excel displays the complete cell contents.

While changing the column width, ensure that the cell pointer is positioned somewhere in that column. That is, some cell in the column should be active. In Excel, you can change the column width in many ways.

- To change the column width using the menu, click the **Format** button in the Cells group on the Home tab to display the menu, as shown in Fig. 4.28.



Click Format to display the format menu

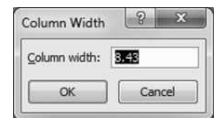
Click to display the Column Width dialog box to change the column width for the current or selected columns

To change the width of column A with mouse, move mouse pointer here and drag

Fig. 4.28 Changing column width

- Click **Column Width** and Excel displays the Column Width dialog box shown here.

The Column Width dialog box displays the current width of the column. The default width of every column in a new worksheet is 8.43 as shown in the Column Width dialog box.



- To change the column width, enter the new value and press the **Enter** key.

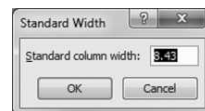
4.12.1 Using Mouse to Change Column Width

- With reference to Fig. 4.28, to change the width of column A, move the mouse pointer to the vertical border line between column A and B in the column border until the shape of the mouse pointer changes to a thick vertical line with a double-headed arrow like

- While the shape of the mouse pointer is like the double headed arrow with a thick vertical line, drag the mouse pointer left or right to change the column width. As you drag the mouse pointer, a vertical line moves on the worksheet and Excel also displays the new width in a small box (called the *ToolTip* box) above the column border. When the vertical line is positioned at the desired column width, release the mouse button and Excel applies the new width to the worksheet.

4.12.2 Changing Width for All Columns

- To change the width for all columns of the worksheet, click the **Format** button to display a menu (see Fig. 4.28) and then click **Default Width**. Excel displays the following Standard Width dialog box.
- Now, type the desired width in the Standard Width dialog box and click **OK**.



You can use any integer or decimal number from 0 through 255 and Excel applies the new width to all columns except those columns whose width you have previously changed.

4.12.3 Changing Column Width for a Range of Columns

Excel can also help you to change the width for a range of columns, e.g., columns B through E. To do this, first you need to select the required column range.

- To select a range of columns, click and hold the mouse button on the first column name in the column border and then drag the mouse on the column border to select the desired range of columns. As you drag the mouse, Excel selects and highlights the desired columns range, as shown in Fig. 4.29. Now you may change the width of all selected columns by dragging the column border or through the Column Width dialog box.

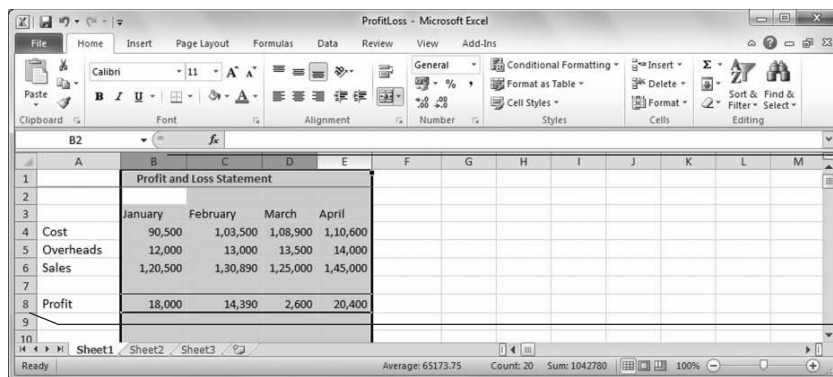


Fig. 4.29 Selecting a range of columns

Note If you need to select non-adjacent columns, click the mouse on a column letter in the columns border to select the first column. Then **Ctrl+Click** one column at a time to select additional columns.

4.12.4 Changing Row Height

When you change the font size of data entered in a cell, Excel automatically changes the row height. However, if you want to manually change the row height, use the Row Height command from the Format

menu (See Fig. 4.28) and specify the desired row height in the Row Height dialog box displayed by Excel. Alternatively, drag the bottom row border line between with mouse, as illustrated in Fig. 4.29.

4.12.5 Selecting the Best Fit Row Height and Column Width

- If you want to automatically adjust the column width for the current column so that it can accommodate the widest cell entry in that column, click **Format** in the Cells group on the Home tab to display the **Format** menu and click **AutoFit Column Width**.
- Similarly, click **AutoFit Row Height** in the **Format** menu so that it can accommodate the tallest character in the row.

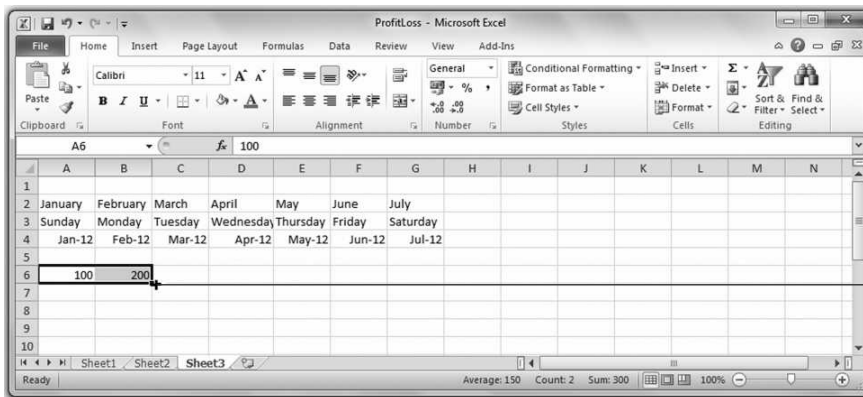
If you select a range of columns and rows before using these commands, Excel applies these commands on the selected range.

4.13 FILLING CELLS BY EXTENDING A RANGE



It is often required to enter names of months, days of the week, or other series in the worksheet. Consider the worksheet shown in Fig. 4.30 which contains a few series. You can create such series by typing data in the initial cell(s) and extend the series by dragging the *Fill handle*.

- Select the range that contains the first few values of a sequence, e.g., A6:B6 in Fig. 4.30. For month/day name, you need to type the only the first value.
- Move the mouse pointer over the bottom right corner of the range and the mouse pointer changes to a thick cross, called *Fill Handle*. Drag the mouse to extend the range. When you release the mouse, Excel fills data in the range.



Drag the *Fill Handle* to extend the series

Fig. 4.30 Extending a series

4.14 MOVING DATA



When you initially create a worksheet, you may not consider all aspects. Therefore, many times, after creating the worksheet, you want to change the position of data in the worksheet.

4.14.1 Using the Mouse to Move Data

You can easily move data from one cell or a range of cells to anywhere in the worksheet with mouse. Here are the steps to move the contents of cell A1 to B1.


- Click cell **A1** to make it active. Move the mouse pointer to any part of the cell border except the bottom right corner. (Do not move the mouse inside the cell.)
- While the mouse pointer is on the cell border, press and hold the mouse button. Excel displays the message in the status bar—‘Drag to move cell contents, use Alt key to switch sheets’.
- Without releasing the mouse button, drag the mouse pointer to cell B1 and release the mouse button. Excel moves the cell contents from cell A1 to B1.

You can move contents of a range of cells in the same way.



Note If the shape of the mouse pointer does not change when you move the mouse on the cell border and you are unable to move the cell contents with mouse, ‘Cell drag and drop editing’ is disabled in your Excel program. To enable it, click the **File** tab to open the Backstage view, click **Options**, **Advanced** and click the **Enable fill handle and cell drag-and-drop** check box. Then click **OK** to close the Options dialog box.

4.14.2 Using Cut and Paste Commands

You can move data using *Cut and Paste* with these step:

- To move data from a single cell, click that cell. To move data from a range, drag mouse to select the range.
- Click the scissors icon  in the Clipboard group of the Ribbon or press **Ctrl+X** keys to cut the selected text.

Excel does not remove the data from the source range, however, it displays flashing dotted lines in the border around the cut range. This is also called *marqueeing* (marking). Excel has put the cut data into the clipboard.



- To paste data, move the cell pointer to the starting cell of destination range and press **Enter**, press **Ctrl+V** or click  in the Clipboard group on the Home tab on the Ribbon. An alternate way to complete the paste operation is to right-click the destination cell to display a context menu and click  in the menu.

Note After cutting the text, if you don't want to complete the paste operation, press **Esc** to remove *marqueeing* from the source range.

4.15 COPYING DATA TO ANOTHER AREA



Excel can help you to copy data from one cell or range to another with *Copy and Paste* or using the mouse. To use the Copy and Paste technique:

- Select the desired cell or range and press **Ctrl+C** or click  in the Clipboard group of the Ribbon on the Home tab.
- To paste the copied data, move the cell pointer to the starting cell of destination range and press **Enter**, press **Ctrl+V** or click  in the Clipboard group on the Home tab on the Ribbon.

To copy a range with the mouse:

- Select the range, press and hold the **Ctrl** key and then drag the range border to the desired destination. Excel copies the range when you release the mouse button.

4.15.1 Copying or Moving a Formula

When you copy or move a cell or range that contains a formula, Excel automatically adjusts the formula in the destination using *relative* addressing. For instance, consider the worksheet shown in Fig. 4.31. The formula used in cell E8 is `=E6-(E4+E5)`. Now, if you copy cell E8 to F8, Excel puts `=F6-(F4+F5)` formula in cell F8. Notice that Excel has changed all reference to column E to column F while copying the formula. After copying or moving data containing formula to a new area, usually the copied formula continues to work correctly.

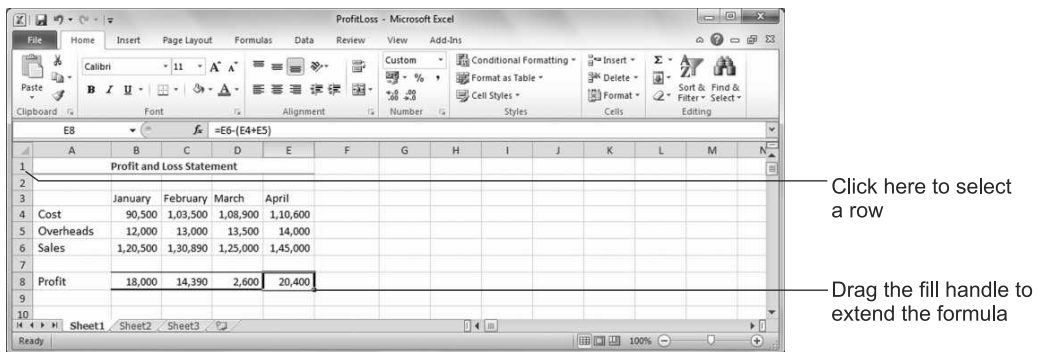


Fig. 4.31 Copying a formula

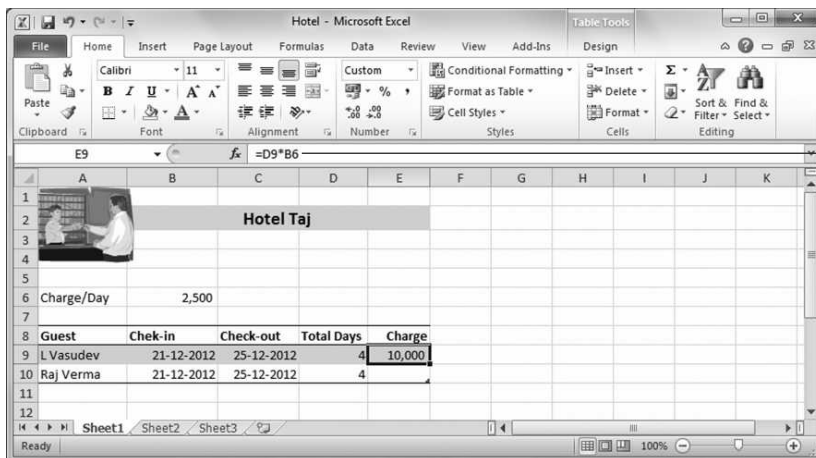
In Section 4.13, you learnt to extend a range by dragging the fill handle. You can follow the same technique to extend the formula. For instance, with reference to the worksheet shown in Fig. 4.31, if you need to enter the formula to calculate profit for May through December in cells F8:M8, move the mouse pointer over the bottom right corner of cell E8 until it changes to *Fill Handle* and drag the mouse to extend the range. When you release the mouse, Excel fills the range with the formula.

4.15.2 Absolute Cell Reference

As you know, when you copy or move a formula, Excel adjusts cell addresses used in the original formula as per the new location. Though this works in most cases, sometimes you may like to keep the cell address fixed (absolute) when you copy a formula referring to that cell. Consider the worksheet shown in Fig. 4.32, where the charge for the first guest is calculated based on the number of days the guest has stayed in the hotel available in column D multiplied by the per day room charge available in cell B6. The formula used to calculate the room charges in cell E9 is `=D9*B6`. If you copy cell E9 to E10, Excel would adjust the formula to `=D10*B7`, which will result in incorrect room charges calculation, as cell B7 is empty. In this situation, we need to keep reference to cell B6 in the formula `=D9*B6` *absolute*, so that when this formula is copied, Excel does not change it.

- To make cell reference in formula absolute, add a “\$” sign before the row and column number, e.g., `B6`. In other word, the formula for room charges should be `=D9*B6`.

Now, if this formula entered in cell E9 is copied to E9, Excel will put `=D10*B6`.





To make reference to cell B6 absolute in the formula, change the formula to =D9*\$B\$6

Fig. 4.32 The Hotel worksheet

Tip While entering/editing a cell address in a formula, press F4 to make the cell reference absolute.

In some situations, you may need to use *mixed cell reference*, i.e., the column reference is absolute while the row reference is relative. In that case, use the \$ sign with the row number but not column, e.g., \$B6. Similarly, in cell address B\$6, the column reference is relative while the row reference is absolute.

4.15.3 Paste Options

When you use the Paste button or Ctrl+V to paste cell contents, Excel copies everything, including cell formatting, comments and formula in cells, if any. Sometimes, you may like to copy only cell value (and not the formula). For instance, if you want to copy the value of last year's profit from a worksheet to a new worksheet, copying the formula will not work; instead, you need to copy the value (result). On the other hand, sometimes, you may like to link the data in the cell to the cell data you are coping from. On other occasions, you may just like to copy the formatting. To enable the user to control the paste operation, Excel displays various paste options when you click  located below the Paste button on the Home tab, as shown in Fig. 4.33. You can also view paste options in the context menu that you get on right clicking in a cell. Excel also displays the paste options on clicking the smart tag  (Ctrl) Excel displays when you do the paste operation. The paste options are divided in the following sections.

Paste

The options in the Paste section are used paste everything, formulas, formulas with number formatting, without borders, transpose rows and columns, etc.

Paste Values

The paste options in this section are used to paste values or values with formatting.

Other Paste Options Use these options to paste formatting, picture or link the cells to data in the source cells.

Paste Special

Opens the Paste Special dialog box to enable you to choose the paste options.

When you hover the mouse over a paste option, Excel displays a *live paste preview* for the paste option, which may help you select the right option.

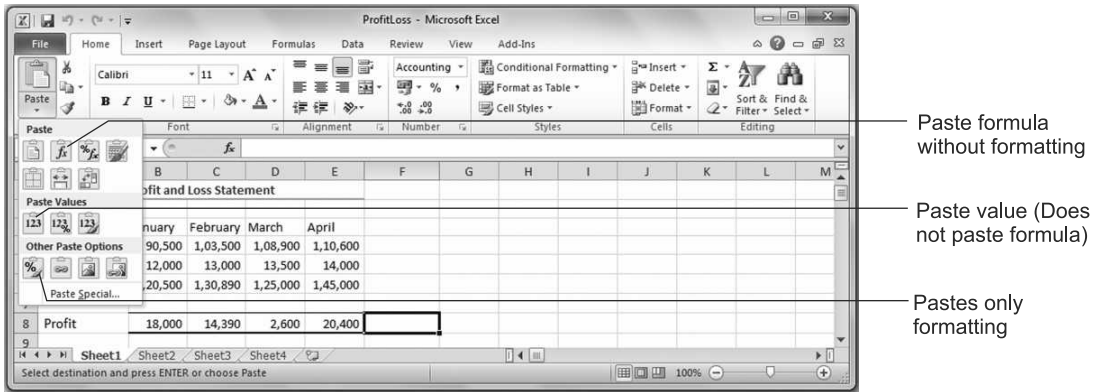


Fig. 4.33 Paste options


4.16 INSERTING/DELETING ROWS, COLUMNS AND CELLS



When you initially create a worksheet, you may not consider all aspects of the data to be entered in the worksheet. Later you may realize that you have missed out a row or column at a particular position. However, you can easily insert any number of rows or columns at any location in the worksheet.

4.16.1 Inserting Rows and Columns

Consider the worksheet shown in Fig. 4.31. To insert a blank row at the top of the worksheet (i.e., before row 1):

- Click the row number on the row border to select row 1, as illustrated in Fig. 4.31. Excel highlights the entire row 1.
- Click  in the Cells group on the Home tab and Excel inserts a row above the selected row.

If you need to insert multiple rows, drag mouse on the row border to select the number of rows you want to insert, and then click the Insert button. When Excel inserts row(s), it automatically adjusts cell reference used in the formula in the worksheet.

- The procedure to insert a column is similar to inserting a row. That is, click the column letter on the column border to select the column and then click **Insert** in the Cells group on the Home tab.

In the same way, you can insert multiple columns.

4.16.2 Deleting Rows and Columns

- The procedure to delete column(s)/row(s) is similar to inserting column(s)/row(s), except that after selecting the required column(s)/row(s), click **Delete** in the Cells group on the Home tab.

Besides finding the Delete (and Insert) commands in Cells group, these commands are also available in the context menu that you get on right clicking the selected row(s) or column(s).

4.16.3 Shifting Cells

While normally we insert an entire row or column in the worksheet, however, sometimes, you may need to shift the entered data down or right, without inserting any row or column. To accomplish this:

- Select the range that you want to shift down/right, right-click to display the menu and click **Insert**. Excel displays the Insert dialog box shown in Fig. 4.34.
- Click to change the shift cells option, if required and click **OK**.

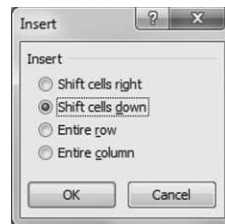



Fig. 4.34 *Shifting cells down or right*

4.16.4 Erasing Part of a Worksheet

- To erase a part of the worksheet, select the range by dragging the mouse and press the **Del** key. If you end up deleting some data by mistake, press **Ctrl+Z** or the Undo button on the Quick Access toolbar to restore the data.


The Del key deletes the contents of the range but retains formatting. If you want to delete the contents as well as formatting, click  in the Cells group to display a menu and click **Clear All**.

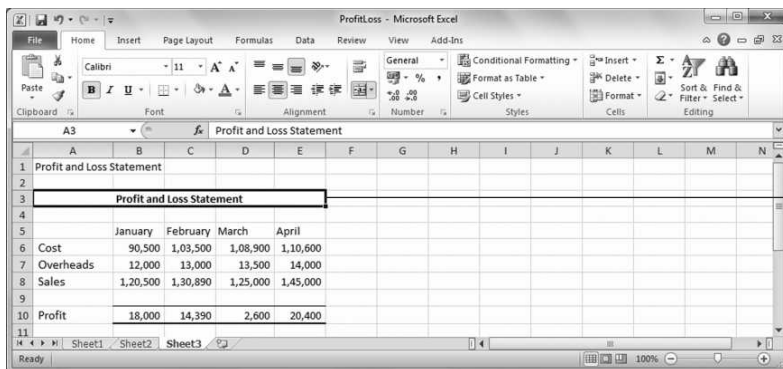
Note On deleting a row, column or a range, if you see '#REF!' displayed in any cell of your worksheet, it indicates that you have deleted some cells that were being used in formulas. In that case, immediately use Undo.

4.17 CENTERING ACROSS A RANGE (MERGE AND CENTER)



When you create a workbook, you usually show the title centered at the top of the worksheet. For instance, 'Profit and Loss Statement' is centered in the range A3:E3 in Fig. 4.35. Notice that the range A3:E3 has been merged and appears like a single cell with 'Profit and Loss Statement' centered in it.

- To merge and center data, select the range, e.g., A1:E1 and click  (Merge and Center) in the Alignment group on the Home tab. While merging data, enter data only in the first cell.




Merged Range

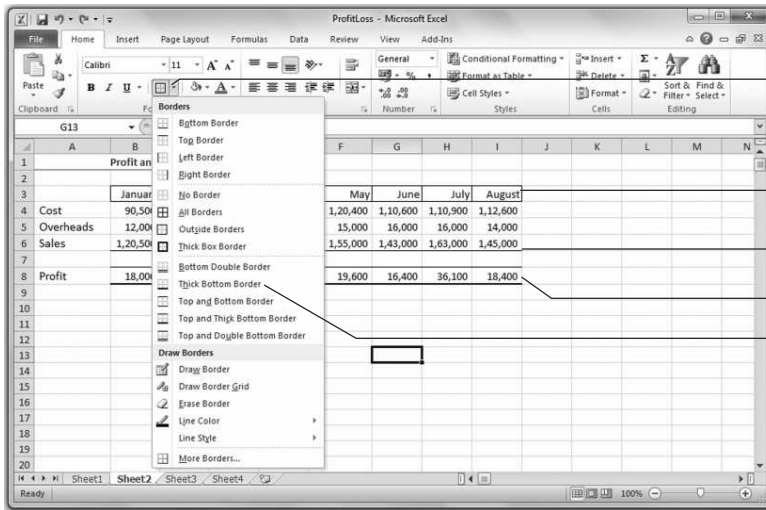
Fig. 4.35 *Centering across a range*



4.18 DRAWING A BORDER AROUND CELLS

To give beautiful look to your worksheet, you can draw a border around selected cells. You may draw the border around all or specified sides of the cell. Figure 4.32 displays a few types of borders used in a worksheet. Here are the steps to draw a border:

- Select the cells you want to apply some type of border to.
- Click the down arrow to the right of , the Borders button to display the border options, as shown in Fig. 4.36.
- Click the desired border type to ask Excel to apply it on the selected range.



Borders button. Click the down arrow to display the border options


Border around all sides of a range

Bottom border

Bottom and top border

Click to draw a thick bottom border

Fig. 4.36 Drawing a border

Notice that Excel displays last applied border style on the Border button. You can click  to apply the type of border displayed on the button on the current or the selected range. The lower sections of the border options contain commands to change the line colour, line style and to erase the border.



4.19 CONDITIONAL FORMATTING

When you use a formula in a cell, its result depends on the data it refers to. For instance, the monthly profit displayed in cell B8 in Fig. 4.37 depends on data in cell B4, B5 and B6. Thus, the profit value in cell B8 may be positive, zero or negative. To grab attention to the profit figures, you can apply conditional formatting, so that:

- ◆ If the profit is negative, Excel displays the cell value in dark red color with light red fill.
- ◆ If the profit is up to 10,000, it displays the cell value in dark yellow with light yellow fill.
- ◆ If the profit is more than 10,000, it displays the cell value in dark green with light green fill.

- To apply conditional formatting, first select the cell or cells you want the formatting to be applied to. Then click **Conditional Formatting** in the Styles group on the Home tab to display a menu containing the conditional formatting choices.
- Click **Highlight Cells Rules** and Excel displays a submenu as shown in Fig. 4.37.

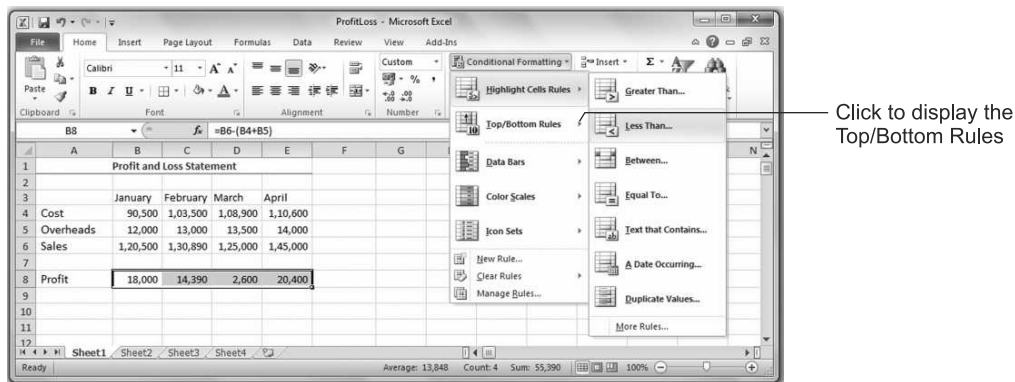


Fig. 4.37 Applying conditional formatting to cells

- Click the type of rule you want to apply, e.g., **Less Than** and Excel displays a dialog box shown in Fig. 4.38 to define one or more values and the color you want to apply when the condition is true. To define the first rule, i.e., when the profit is negative, you would enter 0.
- Next, click the down arrow to choose one of the built-in format styles, as illustrated in Fig. 4.38 or define a custom format.

In the same way, you may define additional rules, as required.

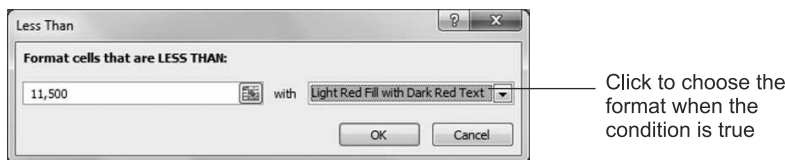


Fig. 4.38 Defining a Conditional Formatting rule

4.19.1 Conditional Formatting using the Top/Bottom Rules

Top/Bottom Rules provide a convenient way to apply conditional formatting on a range.

- On clicking *Top/Bottom Rules* in the Conditional Formatting menu (see Fig. 4.37), Excel displays a submenu containing various choices, such as *Top 10 Items*, *Top 10%*, *Bottom 10 Items*, *Bottom 10%*, *Above Average* and *Below Average*.

These options are self-explanatory, e.g., use *Top 10 Items* to apply conditional formatting to the top 10 items, and *Bottom 10%* to items falling within the bottom (last) 10% in value.

- On selecting an *option*, Excel displays a dialog box similar to Fig. 4.38 to define the formatting for rule, e.g., display *Top 10 Items* in Green color. You can also apply multiple rules on a range.

4.20.1 Entering the Current Date

To enter the current date in a cell, you can take the help of the TODAY function.

- Type **=TODAY()**. As you start typing the function, Excel may display a list of functions matching the entered characters and offers some help information. Press the **Enter** key and you should see the current date, e.g., 26-01-2013 in the cell. (If you see “####” in the cell, increase the column width.)

The date format you would see in your worksheet depends on the Regional Settings selected in Windows Control Panel and customization you might have done on Windows. However, as Excel can display the date in various formats, you can change the date format as per your requirements. Figure 4.40 displays date values displayed in a worksheet in various formats.

- To choose a date format, click the down pointing arrow to the right of the **Number Format** list box in the Number group on the Home tab to display the list of formats and click **Long Date** or **Short Date**.
- To pick other date formats, click **More Number Formats** to display the Format Cells dialog box shown in Fig. 4.40. You can also display the Format Cells dialog box by clicking **Dialog Box Launcher** at the bottom right of Number group. Now click the desired date format in the Type list box and click **OK**.

To display additional date formats choose a different locale (location) in the Format Cells dialog box, as illustrated in Fig. 4.40. If you want to enter a date-time value in a cell, use **=NOW()**.

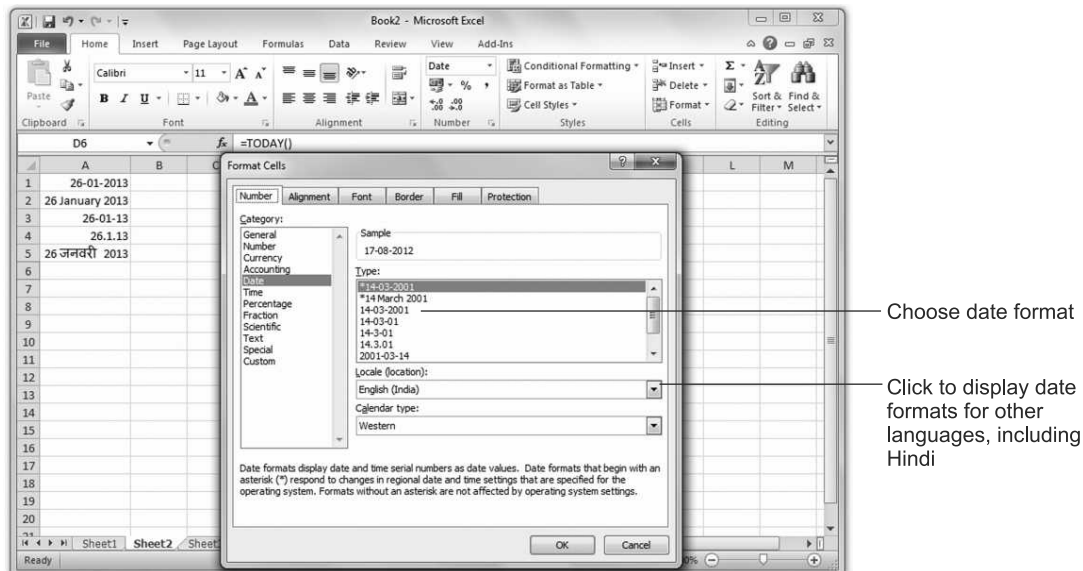


Fig. 4.40 Choosing date format

4.20.2 Entering Dates in a Worksheet

- To enter a specific date, e.g., April 16, 2013 in cell, you can simply type the date in any of the Excel's date formats, e.g., 16/04/2013, 16-04-2013, 2013-04-16, etc.

After entering a date in a cell, if Excel right aligns it in the cell or allows you to change the date format, it indicates that Excel has accepted the entered data as a date, and not as a text entry.

- Another way to enter a specific date in a cell is by using the DATE() function, e.g., **=DATE(2013,09,20)** enters a date value corresponding to September 20, 2013 in the cell.

While entering a function in a cell, you may notice that after you have typed the function name, e.g., **=DATE(**, Excel displays a function tooltip, e.g., *DATE(year, month, day)*. The function tooltip may help you to enter the required parameters and their sequence for the function.

4.20.3 Using Date Arithmetic

Excel enables you to perform arithmetic operations on dates entered in a worksheet. For instance, you can find out number of days between two date values or find out a date that is 5 days before or after a specified date. For example, if cell A1 and A2 contain date values, **=A1-A2** entered in a cell displays the number of days between these two dates. Similarly, **=A1+2** entered in another cell displays a date that is two days after the date entered in cell A1. For manipulation of the date data entered in the worksheet, Excel provides the following functions:

- DAY** Calculates the day of the month from the date. For example, if cell A18 contains 27/03/2013, **=DAY(A18)** entered in any cell displays 27.
- MONTH** Calculates the month number from the date. For instance, if cell A18 contains 27/03/2013, **=MONTH(A18)** displays 3.
- YEAR** Calculates the year number from the date. For instance, if cell A18 contains 27/03/2013, **=YEAR(A18)** displays 2013.

4.20.4 Entering Time

Like the date, you can enter the desired time in the worksheet by entering it in any of the acceptable time formats. For instance, to enter 9.30 am in a cell, you can type 9:30 or 9:30 AM or 9:30 am. Similarly, to enter 3.35 pm, you can type 3:35 PM, 3:35 pm or 15:35. If you also want to include seconds' information in the time, you can enter it in any of the following ways: 9:30:10, 9:30:10 am, 9:30:10 AM, 13:30:13, 1:30:13 PM, etc. When you enter the time in a cell in any of the acceptable time formats, Excel right aligns the entry in the cell and displays the time in the same format. If the entry remains left aligned, it indicates that you have not entered the time in an acceptable time format. You may also use the TIME() function to enter a specific time, e.g., **=TIME(9,30,15)** to enter 9:30:15 am.

4.21 HIDING AND UNHIDING COLUMNS AND ROWS



Excel provides you with the facility to hide one or more columns or rows. However, hiding does not remove the data from the hidden columns or rows. Also, the formulas in the hidden columns and rows continue to work properly. Hiding columns and rows is useful when you do not want to display or print unimportant data.

- To hide a column, right click the mouse on the column letter in the column border to display the context menu. Next, click the **Hide** command to hide the column. Use the same steps to hide multiple columns or one or more rows.

Figure 4.41 displays a worksheet with hidden column D. Notice that the column border does not show column D.

- To unhide a column, select the column range that contains the hidden column, right click the mouse to display the context menu and then click the **Unhide** command, as illustrated in Fig. 4.41.

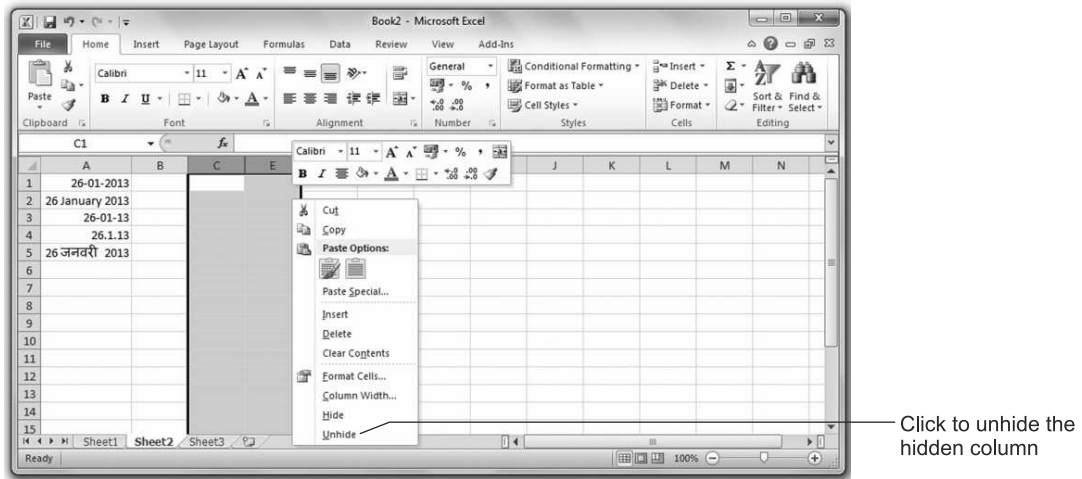


Fig. 4.41 Unhiding a column

4.22 CREATING CHARTS



Often a worksheet contains so much numeric data that it becomes difficult to accurately analyze it and to take a correct decision. In such cases, the facility to represent data in the form of charts comes very handy. Excel allows you to view charts on the screen as well as to print them on a printer or plotter. It supports many types of charts, such as Column, Line, Pie, Bar, Area, Stacked-Bar, XY, 3-D Bar, Radar, Doughnut, etc. In Excel, creating a chart is very simple—all you need to do is to select the range that you want to include in the chart and click the desired chart button.

4.22.1 Creating a Column Chart

Consider the data shown in Fig. 4.42 that displays the sales figures for the months of January, February and March for PC, Printer and Scanner products. The sales figures are included in the range A3:D6. Notice that besides the sales figures, the range also includes column and row headings which Excel would use to label the chart axis. To create a column chart similar to the one shown in Fig. 4.42, follow the steps given below:

- Select the range **A3:D6** that you want to plot in the chart.
- Click the **Insert** tab and then click the **Column** button in the Chart group, as illustrated in Fig. 4.42. Excel displays icons for various types of column charts it can create as shown in Fig. 4.43.
- Click the desired chart type and Excel creates the corresponding chart. If you click the first column chart type under “2-D Column”, Excel creates a chart similar to the one shown in Fig. 4.44.

The chart has used data in the first column as *legend* and the data in the first row as *chart axis*. Notice that Excel is displaying the contextual Chart Tools tab in Fig. 4.44. (If you do not see Chart Tools,

click anywhere in the chart.) Chart Tools are helpful in modifying the chart, e.g., you can change the chart *style* or *layout*, as illustrated in Fig. 4.44. If you need to resize the chart, drag the resizing handles located on the chart border. Moving the chart is very simple; just drag the chart border or the empty space inside the border.



Fig. 4.42 Sample data to create a chart

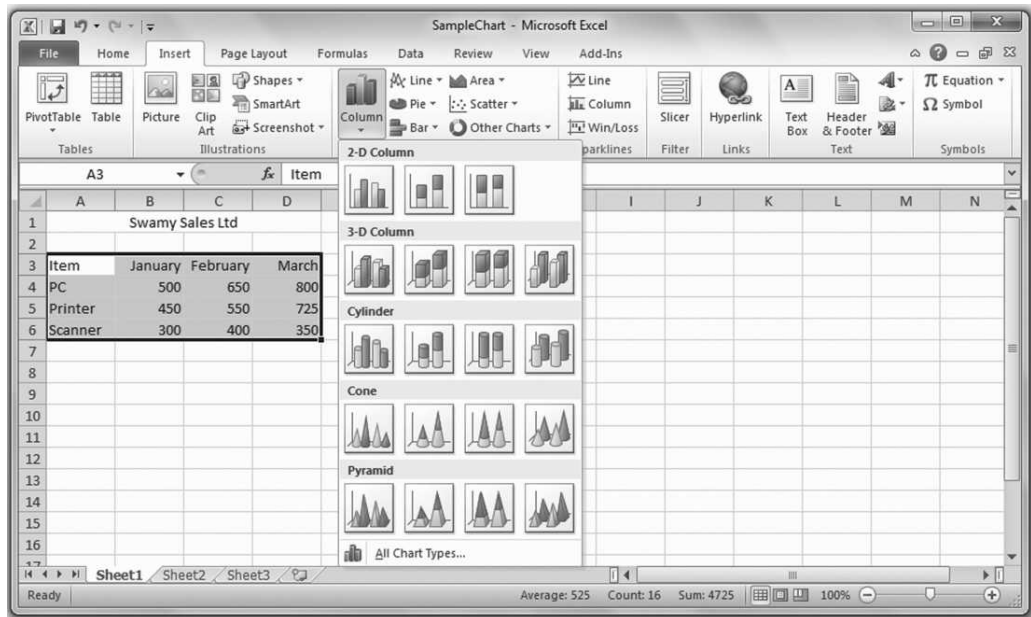


Fig. 4.43 Excel displaying various types of column charts it can create



Fig. 4.44 2D Clustered Column Chart

4.22.2 Changing the Chart Type

As you know besides the column chart, Excel can create several other types of charts. To change the chart type, follow the steps given below:

- Click the **chart** to display Chart Tools. Then click the **Design** tab in Chart Tools to display the Design tools. The Ribbon should look similar to Fig. 4.44.
- Click the **Change Chart Type** button on the Ribbon. This button is the first button on the Ribbon.

Excel displays the Change Chart Type dialog box shown in Fig. 4.45. This dialog box displays chart categories in the left and icons for the chart types in the right. On clicking a chart category, the dialog box displays the available charts for that category. To change the chart type, click the icon for the desired chart and then click OK.

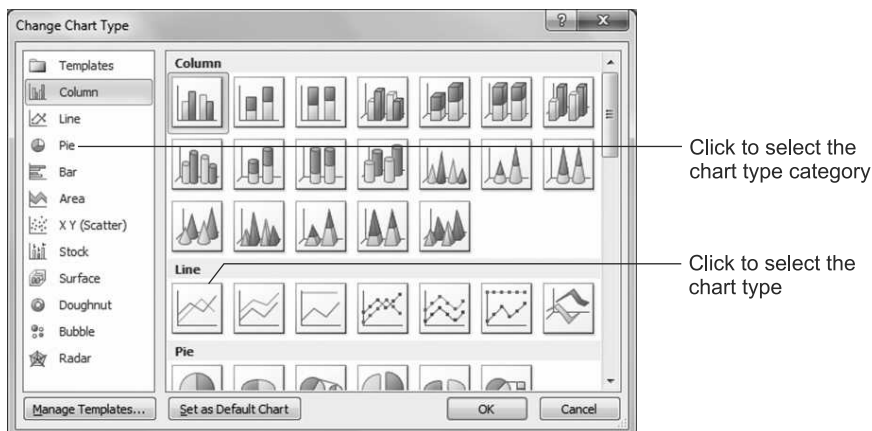


Fig. 4.45 Change Chart Type dialog box

4.22.3 Pie Chart

A pie chart presents various data values of a range as wedge-shaped sections (pies) of a circle. It displays the percentage of each part (data value) of the total of all values in the range. The total or the circle represents 100 per cent. This chart is suitable to display the budget allocation to different departments, to compare the profit for the different divisions of a company, or to compare the market shares of various PC manufacturing companies in the total PC market. Figure 4.46 displays a pie chart for different types of investments made by an investor. Unlike other types of chart, the pie chart can plot only one data series.

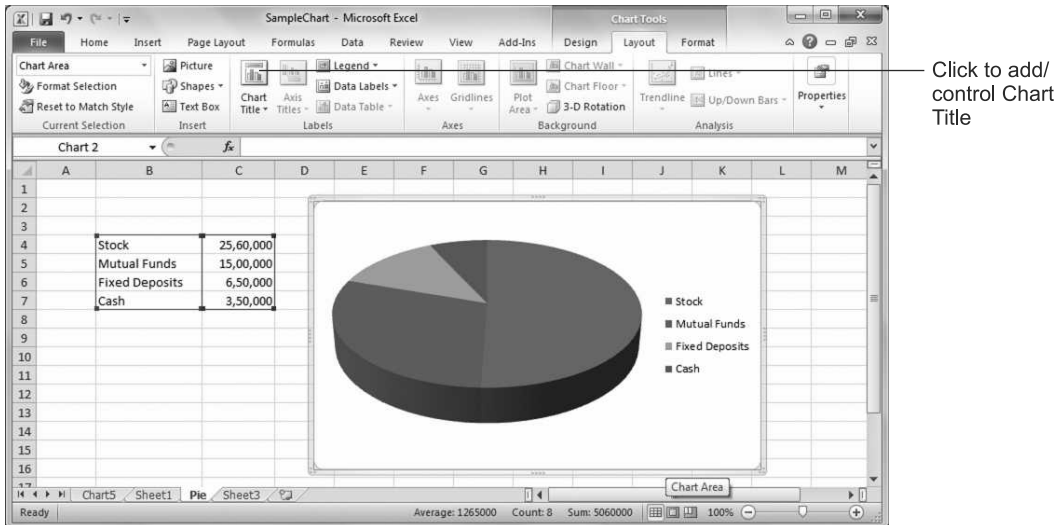


Fig. 4.46 A pie chart

4.22.4 Modifying Chart

Modifying a chart is quite simple as Excel provides several controls on the Layout and Format tabs of Chart Tools. For instance:

- To add/remove the chart title, click the Chart Title button and choose the desired option, as illustrated in Fig. 4.46.
- Similarly, use Legends, Data labels, Axis Title, Grid Lines and other buttons on the Layout tab to change the appearance of the chart.
- To reposition, a specific part of the chart, e.g., legend within the chart, click that area of the chart and drag to reposition it.

The Format tab in Design Tools shown in Fig. 4.47 contains tools to change the shape/style of the chart or any component within the chart. You apply any background colour to the chart. Figure 4.47 displays Shape Effect being applied to an area chart.

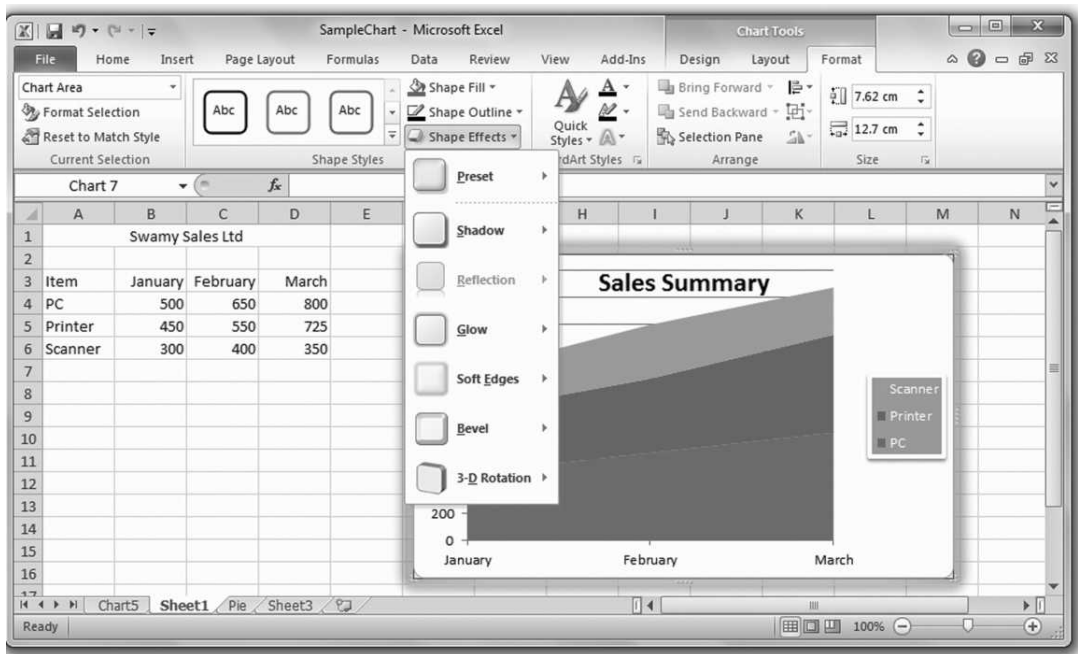


Fig. 4.47 Shape Effect being applied to an Area chart

4.22.5 Moving Chart to a Chart Sheet

By default, Excel embeds the chart on the same sheet. However, if you like to show the chart on its own chart sheet:

- Click the chart that you want to move and click **Design** in Chart Tools on the Ribbon.
- Click the **Move Chart** button located on the right in the Location group, and Excel displays the Move Chart dialog box shown in Fig. 4.48.
- Click the **New Sheet** option. Optionally, you may also type a different name for the new sheet, instead of the default name. Then click **OK** to close the dialog box.

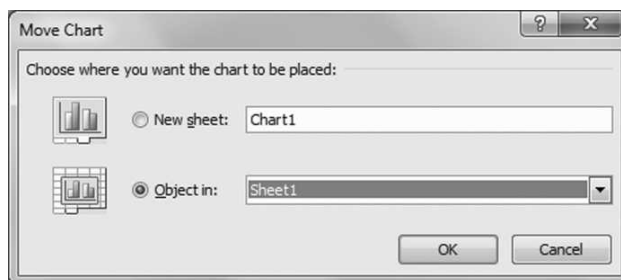


Fig. 4.48 Move Chart dialog box

Excel adds a new sheet to the workbook and moves the chart on this new chart sheet.

Note Sometimes, you do not see the chart on the newly added chart sheet. This may be due to the default printer being off-line or misconfigured printer. You may change the default printer to 'Microsoft XPS Document Printer' and try again.

4.23 USING SPARKLINES



Sparklines is a new feature available in Excel 2010. A sparkline is a tiny chart in the cell background. Excel can create three types of sparklines, line, column and Win/Loss, as illustrated in Fig. 4.49.

Line and Column sparklines are similar to line and column charts, respectively. A Win/Loss sparkline is similar to the Column sparkline, except that the negative values are highlighted in different colors.

If you can create charts, adding sparklines to the worksheet should be easy. Here are the steps to create a Line sparkline, similar to the one shown in Fig. 4.49.

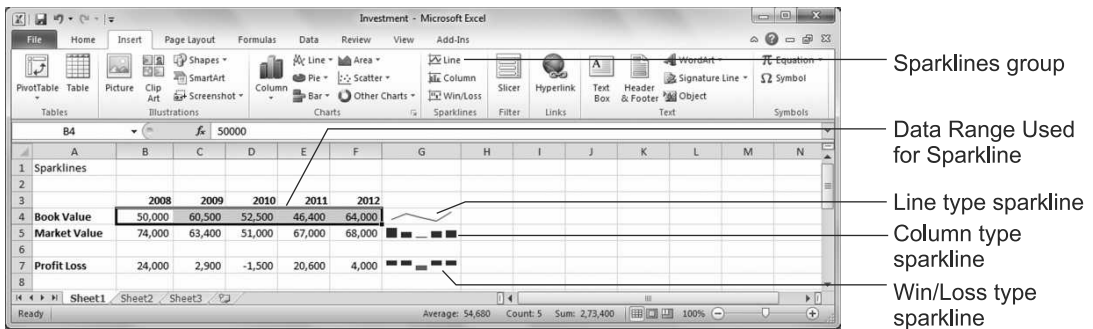


Fig. 4.49 Sparklines used in a worksheet

- Select the source data range for the sparkline, e.g., B4:F4.
- Click the **Insert** Tab, click the **Line** button in the Sparklines group and Excel displays the Create Sparklines dialog box shown in Fig. 4.50, which includes the Data Range selected in the previous step.

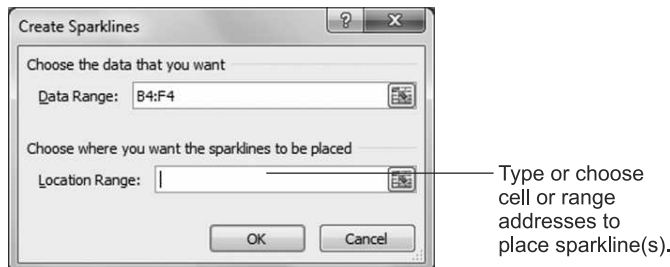


Fig. 4.50 Create Sparklines dialog box

- Type **G3** in the Location Range box where you want to place the sparkline. You can also click the corresponding cell in the worksheet to choose the cell.

- Click **OK** to close the Create Sparklines dialog box and Excel displays the sparkline on the worksheet.

In the *same* way, you can create other types of sparklines. The cell that displays the sparkline is like a normal cell and you may enter any text in that cell, if required. When you click a cell containing a sparkline, Excel displays *Sparkline Tools* on the Ribbon to customize the sparkline, e.g., change line or data point marker color, mark high, low and negative points, clear sparkline, etc.

4.24 MULTIPLE WORKSHEETS IN A WORKBOOK FILE



So far, all the workbooks we have discussed were confined to a single worksheet (sheet). Excel is capable of storing information in multiple worksheets within the same workbook file. After opening a workbook file, if you look at the left side of the horizontal scroll bar, you find a few tabs named Sheet1, Sheet2, Sheet3, and so on. When you create a new workbook file, Excel creates a fixed number of worksheets in this file.

- By default, Excel selects the first sheet (Sheet1), however to view or enter data in other sheets, click the corresponding sheet tab.

When you need to enter a lot of data in a workbook, entering it in separate sheets helps in better organization of the data. For instance, you may enter Assets data on sheet 1 and Liabilities on Sheet2. Similarly, using multiple sheets in a workbook is useful when you have more than one set of similar but related data. For example, a company may divide its operations into two regions—Northern Region and Southern Region. If the company wants to store data for both divisions separately, it may do so by using separate sheets. In that case, it may also show the combined data for both divisions in another sheet, e.g.,

- Sheet1 displays the combined total for both regions.
- Sheet2 displays the Profit and Loss summary for the Northern Region
- Sheet3 displays the Profit and Loss summary for the Southern Region

A sample data for the above scheme is shown in Table 4.3:

Table 4.3

SHEET 1 (COMBINED)		SHEET 2 (NORTHERN REGION)		SHEET 3 (SOUTHERN REGION)	
Cost		Cost	2,45,000	Cost	1,39,000
Overheads		Overheads	45,000	Overheads	20,000
Sales		Sales	3,20,000	Sales	1,70,000
Profit		Profit	30,000	Profit	11,000

When the data is entered in multiple sheets, a formula may refer to cells belonging to more than one sheet. For instance, to calculate the values to be displayed in Sheet 1 for Cost, Overheads, Sales and Profit, we can sum of the corresponding figures in Sheet 2 and 3. Notice the formula used in cell B2 in 4.47. The formula “=Sheet2!B2+Sheet3!B2” adds the cell B2 from sheet 2 and cell B2 from sheet 3, which refer to the cost figures for northern and southern divisions, respectively.

4.24.1 Renaming, Moving and Inserting and Deleting Sheets

- To change a sheet name to a meaningful name, e.g., North or Sales, double click the sheet tab and type the desired name, as illustrated in Fig. 4.51. Alternatively, right click the sheet tab to display a context menu and click the **Rename** command.
- Similarly, if you want move a sheet, e.g., to move Sheet3 before Sheet2, drag the **sheet tab** left or right with mouse.
- To insert a new sheet after the last sheet, click the **Insert Sheet** button on the right of the sheets tab (see Fig. 4.51.) To insert a sheet before a specific sheet, right click the corresponding sheet tab and click the **Insert** command on the context menu. Then click **OK** in the Insert dialog box.

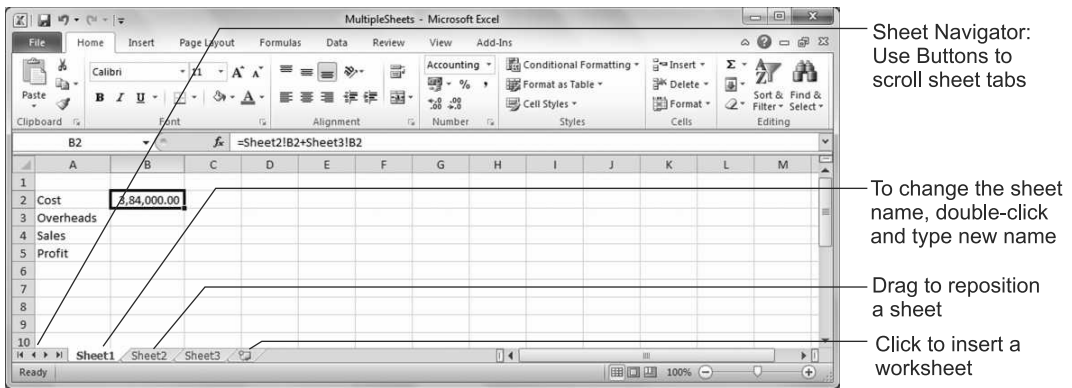


Fig. 4.51 Formula containing reference to sheet names

- Similarly, to delete a sheet, right click the sheet tab and click the **Delete** command. If the sheet contains any data, Excel displays a confirmation box. Remember that you cannot undo the sheet delete operation.
- To quickly identify a sheet, you may change the background color of the sheet tab. To do so, right click the sheet tab and click the **Tab Color** command in the context menu displayed by Excel.

4.24.2 Hiding and Unhiding Sheets

- If you want to hide a sheet so that its data is not visible, right click the **sheet tab** and click the **Hide** command in the context menu, and to unhide a sheet, use the Unhide command.

4.24.3 Using Sheet Background

- If you want to use a picture as the background for a sheet, click the **Page Layout** tab and then click the **Background** button in the Page Setup group.

In response to this command, Excel displays the Sheet Background dialog box. This dialog box is like any Windows file select (open) dialog box. You may choose any picture file from any folder in your PC. Figure 4.52 displays a background being used on a sheet. Though the worksheet background looks good on the screen, it is rarely used because it not printed when you print a worksheet.

- To remove the background from a sheet, click **Delete Background** on the Page Setup tab, as illustrated in Fig. 4.52.

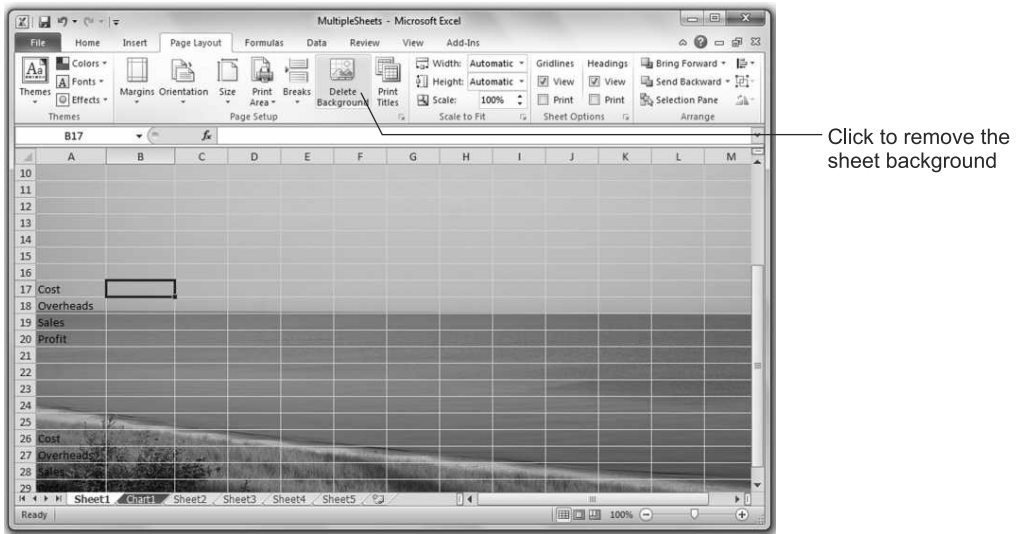


Fig. 4.52 A worksheet using a background

4.25 KEEPING TITLE ROW(S) AND COLUMNS VISIBLE



When you use Excel for real-life applications, you may end up with a worksheet that may have hundreds of rows. Consider the employee worksheet shown in Fig. 4.53. If you vertically scroll the worksheet, the column titles entered in row 2 moves off the window making it difficult to follow what data each column represents. Similarly, assume that the employee worksheet contain additional columns, such as address, date of joining, date of last promotion, allowances, tax, deductions, net salary, etc. In this situation, when you horizontally scroll the worksheet, column A which contains the name of the employee may become invisible making it difficult to know which employee this row refers to.

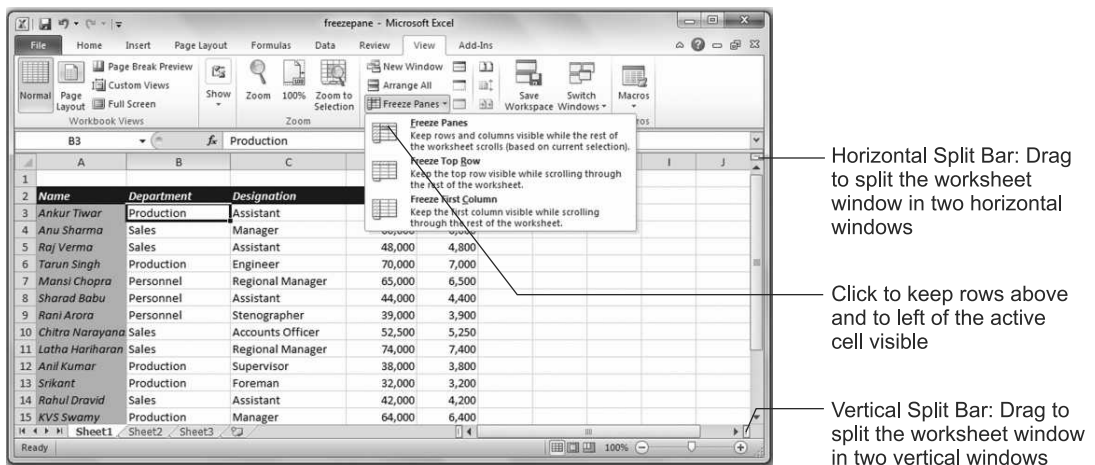


Fig. 4.53 Using Freeze Panes to keep rows and/or columns visible

To overcome this problem, Excel allows us to freeze specified number of rows and/or columns, so that these are always visible when you scroll the worksheet. With reference to the example shown in Fig. 4.53, we may like to freeze column A and rows 1 and 2. Follow these steps to accomplish this:

- Move the cell pointer to cell B3 which is below and to the right of the row(s) and column(s) you want to keep visible.
- Click the **View** tab and click **Freeze Panes**. Excel displays three options as shown in Fig. 4.53.
- Click **Freeze Panes**, the first option. (You may use the second option (**Freeze Top Row**) if column titles are contained in row 1 and you want to freeze row 1 but not column(s). Similarly, use **Freeze First Column** to keep the first column visible.)

Excel displays dark line(s) indicating frozen row(s) and/or column(s). Excel keeps them visible when you scroll the worksheet. To unfreeze panes, click **Freeze Panes** and then click **Unfreeze Panes**.

Another way to keep the title rows visible is by splitting the worksheet window in two horizontal windows by dragging the Horizontal Split Bar, as illustrated in Fig. 4.53. Then you can display title in the top window while you work in the lower window to view or edit data. Similarly, you may split the screen in two vertical windows, if required.

4.26 PRINTING THE WORKBOOK



Like other Microsoft Office programs, you can preview the worksheet, choose what to print, change print settings, print preview and print from one location, the *Backstage* view.

- Click the **File** tab to open the Backstage view. The left section of the Backstage view has commands, such as Save, Save As, Open, Close, Info, Print, Help, etc.
- Click **Print** and Excel displays the Print settings in the middle pane and preview of the document in the right pane, as shown in Fig. 4.54. If Excel displays the **Show Print Preview** button instead of the preview in the right pane, click this button to display print preview.

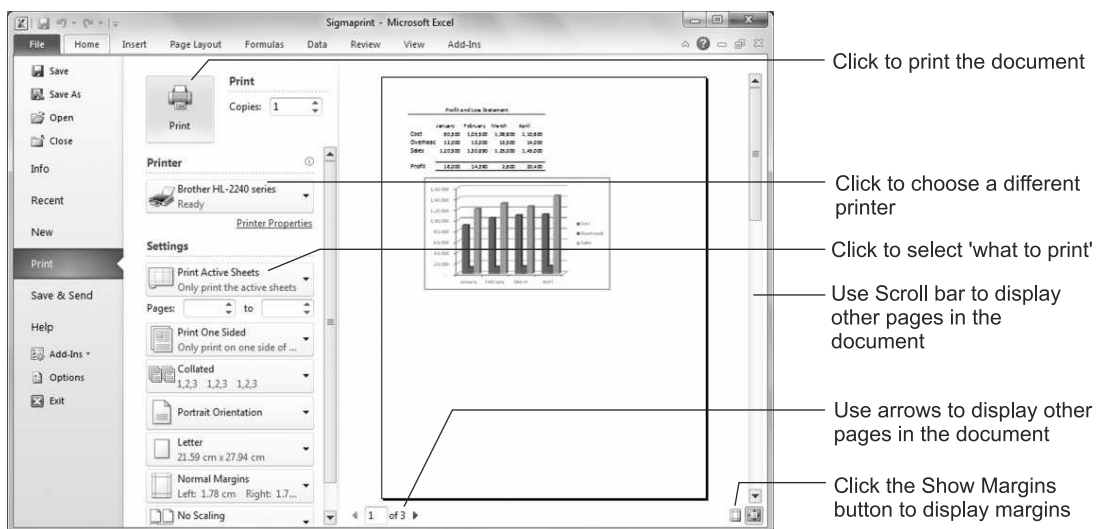


Fig. 4.54 Print Settings and previewing a worksheet

Tip Press **Ctrl+P**, the shortcut keys for the Print command to directly display Print Preview while working in any tab.

Note If you do not see the print preview, make sure that the printer displayed in the Printer section is powered-on and ready (on line). Excel may display the preview if you choose another printer. You may change the default printer to 'Microsoft XPS Document Printer' and try again.

- By default, Excel prints all pages of the active sheet(s) on the selected printer. Therefore, if you click the Print button located in the middle pane, it would print the current worksheet.
- If multiple printers are installed and connected to your PC, you may choose the printer by clicking the button that displays the current printer's name in the Printer section and choosing the desired printer, as illustrated in Fig. 4.54. You may click the **Printer Properties** link to control the printer properties.
- You can use the *Copies* option to control the number of copies and the *Pages* control to define the print range, if your worksheet has more than one page.
- Use the first button in Settings section to control "what to print". Use this option to print the entire workbook (all sheets), selected sheet(s) or the selected range. You may also change the page orientation, margins, page size, etc., though these are normally defined before you begin printing on the Page Setup tab, as you would learn in the next section.
- Click the Show Margins button (see Fig. 4.54) to display *page margins*. Then, if required, you can drag the *margin lines* to change margins.

4.26.1 Setting Up Print Area

When you work on real-life worksheets, you will find that your worksheet runs across several columns and rows. You may not like to print all worksheet data every time you use the Print command. To overcome this problem, Excel allows you to define one or more ranges as the *print area*. After you have setup the print area, when you use the Print command, Excel prints data only from the defined print area.

- To define print area, select the range, click the **Print Area** button in the *Page Setup* group in the Page Layout tab to display a menu. Then click the **Set Print Area** command to define the *print area*. Other commands in the menu are **Clear Print Area** and **Add to Print Area**.

4.27 SETTING UP PAGE AND MARGINS



To give a professional look to your worksheet, you can modify several print parameters, such as the page size, margins, orientation, header and footer. You may need to change the page size and margins depending on the paper you are using and margins you want to leave at the top, bottom, left and right side of the page. These are defined through the controls on the Page Layout tab and the Page Setup dialog box.

4.27.1 Selecting Page Size and Orientation

- To select the page size, click the **Page Layout** tab, click the **Size** button in the Page Setup group and click the desired paper size from the list displayed by Excel, as illustrated in Fig. 4.55.
- The Orientation control in the Page Setup group is used to selection orientation: *Portrait* or *Landscape*. The default selection for orientation is portrait. In the landscape orientation, Excel

prints horizontally along the long edge of the paper. Use the landscape orientation when the width of the worksheet is more than its length or you are using lots of columns.

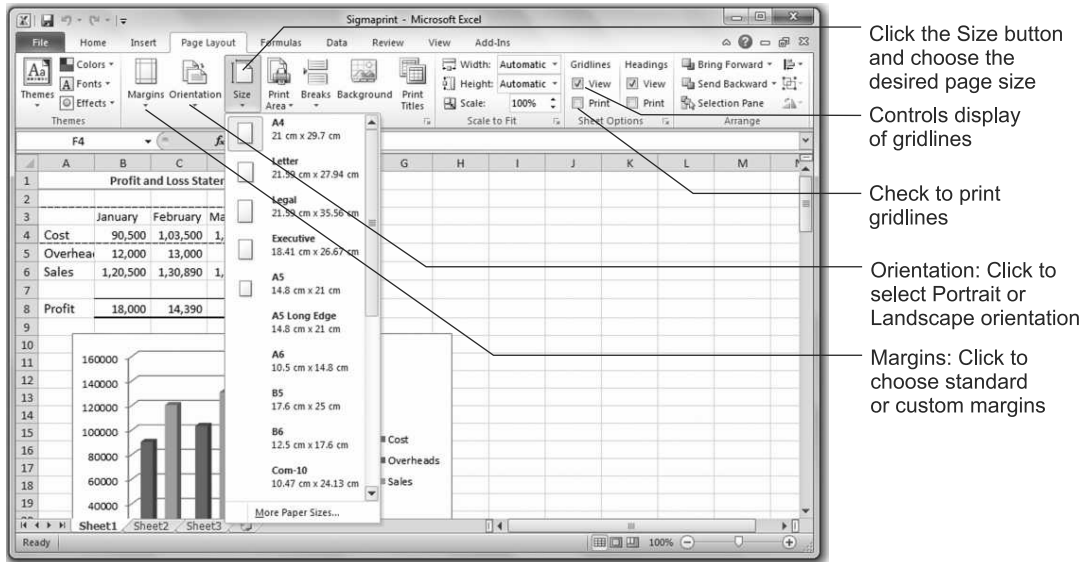


Fig. 4.55 Selecting page size, orientation and margins

4.27.2 Changing Margins

When Excel prints a worksheet, it leaves a specified margin at the top, bottom, left and right side of the page, however, you may change these margins as per your requirements.

- To change margins, click the **Margins** control in the Page Setup group on the Page Layout tab and choose from the standard margins list displayed in the menu. If the standard margins are not suitable for your needs, click **Custom Margins** in the menu to display the Page Setup dialog box shown in Fig. 4.56. You may also click **Dialog Box Launcher** located at the bottom right of any group on the Page Setup tab to display the Page Setup dialog.
- To change any margin, either type the new value in the corresponding margin box or use the spinner buttons to increase or decrease the margin. When you select a particular margin box, Excel highlights the corresponding margin line in the sample page displayed in the Preview box.

The Margins page of the Page Setup dialog box contains two check boxes—*Horizontally* and *Vertically* in the 'Center on Page' box. When you check the Horizontally check box, Excel centers the worksheet on the printed page. This option will make the blank area that Excel leaves on the printed page even. You may use this option when your worksheet data does not cover the full width of the page. Similarly, the Vertically check box vertically centers the worksheet data on the printed page. These check boxes can help you to make the printed page look balanced.

4.27.3 Scale to Fit

When your worksheet is too wide or too tall, and you want to fit the printed output within a specified number of pages, you can take the help of Width, Height and Scale controls in the *Scale to Fit* group on

the Page Setup tab. (See Fig. 4.55). The default value of scale is 100%; use a smaller number to shrink and a number greater than 100 box to enlarge the worksheet on the printed page.

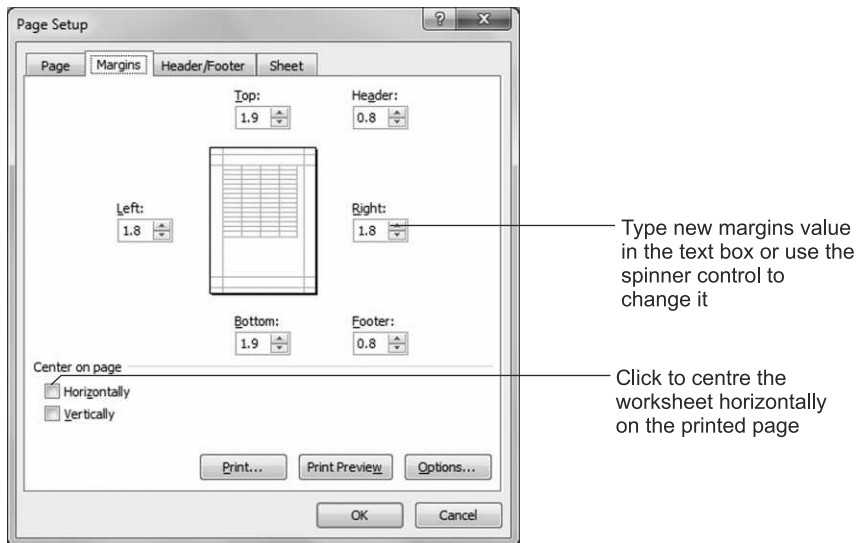


Fig. 4.56 Defining margins in Page Setup dialog box

4.27.4 Controlling Display and Printing of Gridlines

When you work on a worksheet, you normally see gridlines to mark rows and columns.

- If you want to turn off the display of gridlines, uncheck the **View Gridlines** checkbox in the Sheet Options group in the Ribbon. (See Fig. 4.55.)
- When you print a worksheet, by default, Excel does not print the gridlines. However, if you like, you can ask Excel to print the gridlines by checking the **Print Gridlines** checkbox, as illustrated in Fig. 4.55.

4.27.5 Printing Title Rows and Comments

When you use Excel for real-life applications, you may end up with a worksheet that may have hundreds of rows. When you print such a long worksheet, Excel obviously prints it in more than one page. Also, while creating a worksheet you normally type titles for columns in the first few rows. So, when a long worksheet is broken into two or more pages, the descriptive titles are not printed on the second and subsequent pages. This may make it difficult to follow what data each column represents. To solve this problem, you can ask Excel to print a specified number of rows (containing column titles or description) at the beginning of each page. For instance, if rows 2 and 3 contain the title rows, enter "2:3" in the "Rows to Repeat at the Top" box in the Sheet tab of the Page Setup dialog box, as illustrated in Fig. 4.57.

The Print section of the Sheet tab of the Page Setup dialog box also contains a few other controls that you may find useful. For instance, if you want to include the row and column heading in the printout, check the Row and Column Heading check box. *Comments* is another useful option used to control the printing of *cell comments*. (To insert comments in a cell, right click the cell and click **Insert Comment** in the context menu.)

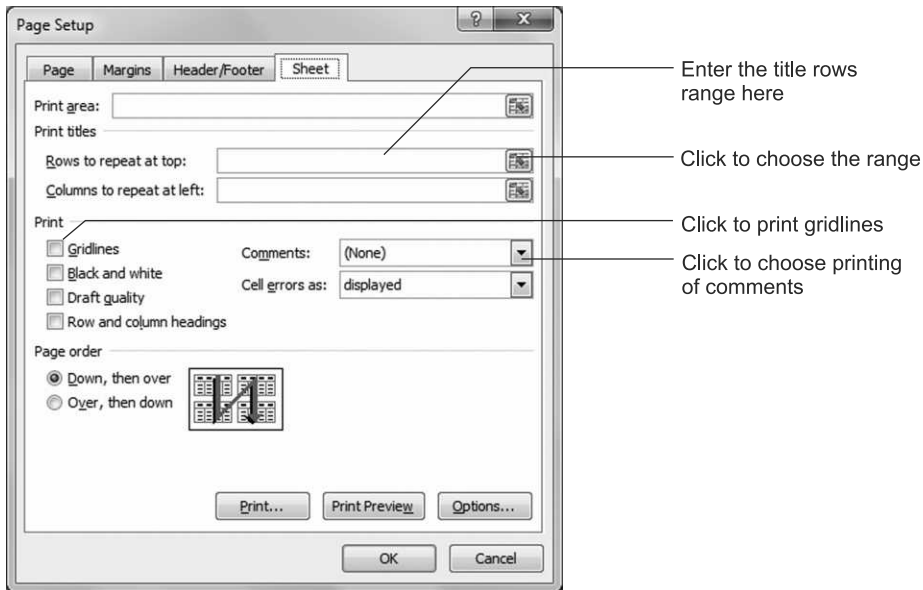


Fig. 4.57 Sheets tab of Page Setup dialog box

4.28 DEFINING HEADER AND FOOTER



When your worksheet contains several pages, you may find it useful to print headers and/or footers. As you know, the header is printed at the top of every page in the top margin of the page, and the footer is printed at the bottom of every page. You can show any information, such as the name of the company or the report, current date, current time, page number, etc. in the header and footer.

- To define or change the header or footer, click the **Insert** tab and then click the **Header & Footer** button in the Text group. Excel displays the Header section and Header & Footer Tools, as shown in Fig. 4.58.
- The header section is divided in three parts. You can click in any section and type any text for the header.
- To help you quickly define the header/footer, Excel has several predefined header/footer text, e.g., page, date, filename, etc., which you can choose by clicking the **Header/Footer** button in Header & Footer group, as illustrated in Fig. 4.58. You can also choose these elements separately by clicking the corresponding control in the *Header & Footer Elements* group.
- To insert a picture in the Header/Footer, use the Picture control in the *Header & Footer Elements* group. To switch between header and Footer, use the **Go To Header/Footer** button in the Navigation group.

The header/footer text is formatted in the same way as you format the worksheet data. After defining the header/footer, click in the worksheet area to continue working on the worksheet data. You may Print Preview the worksheet to view the header and/or footer you have defined.

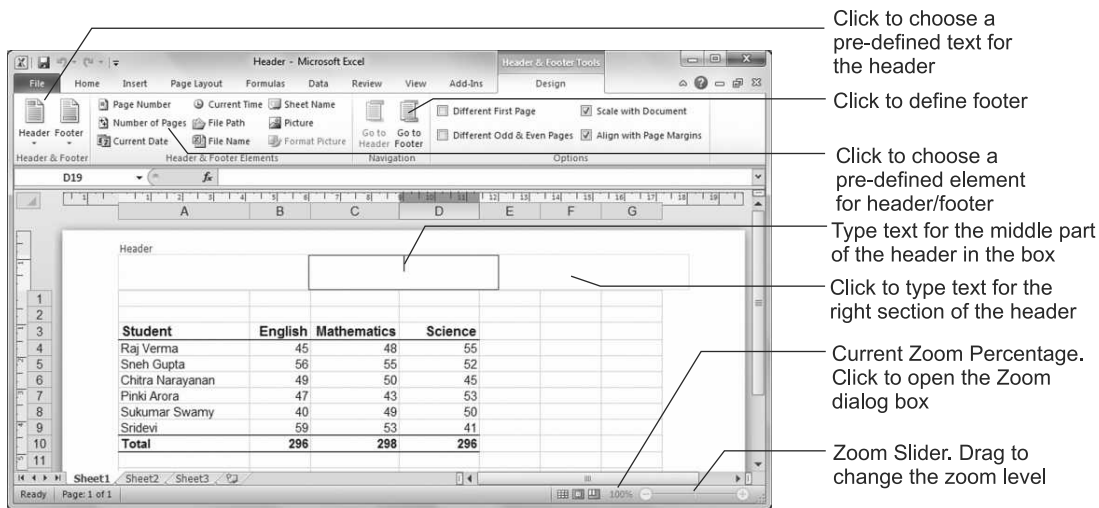


Fig. 4.58 Defining header and footer

4.29 WORKING WITH ZOOM



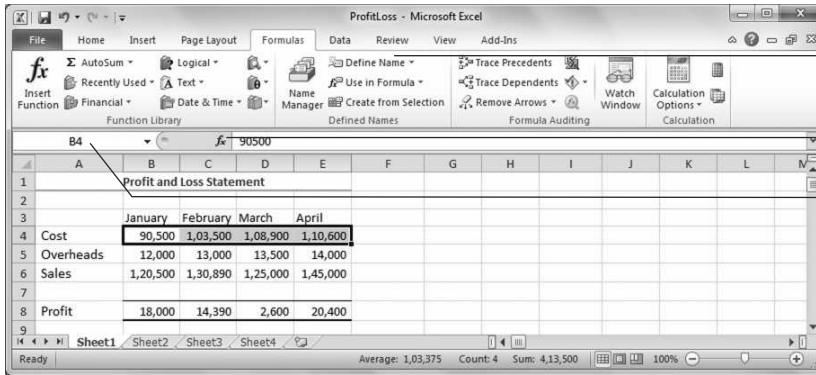
If you find the text and other objects on the worksheet too small or too large, you can change the *zoom* (magnification). The quickest way to change the zoom level is through the *Zoom Slider* located on the right side of the status bar, as illustrated in Fig. 4.58. To change the zoom level, either drag the zoom slider with mouse or click “+” or “-” located at the left and right side of the slider, respectively. As shown in Fig. 4.58, Excel displays the current zoom percentage to the left of the zoom slider. You may click the zoom percentage to open the Zoom dialog box to change the zoom percentage.

4.30 NAMING RANGES



You have used ranges in previous sections for copying, moving and formatting, and with functions. In those cases, you specified the range either by typing the range address (e.g., B4:E4) or by pointing (i.e., highlighting the range with the mouse or arrow keys.) Specifying the exact range by typing or pointing may become cumbersome if you need to use the same range with several functions. In such cases, the easier way is to assign a name to the range once and then use the range name with functions. For example, if the cost figures are entered in the range B4:E4, you may name this range as **COST**. Then you may use **=SUM(COST)** to calculate the total of the cost figures. This function is same as **=SUM(B4:E4)**. A range name is also helpful in quickly jumping to a range with the Go To command that you can initiate by pressing **F5** or **Ctrl+G**.

- To assign a name to the selected range, e.g., B4:E4 in Fig. 4.59 or the current cell, click **Name Box**, type the name you want to assign, e.g., **COST** and press **Enter**.
- An alternate way to name a range is by clicking **Define Name** in the *Defined Names* group on the *Formulas* tab, which displays a dialog box to define the name. Use the Names Manager button to open a dialog box to delete/edit defined names as well as to create new range names.



Click to define a name for a range

Insert Function button

Type a name and press Enter to name the selected range or the current cell

Fig. 4.59 Naming a range

4.31 USING STATISTICAL FUNCTIONS



Excel supports more than 75 statistical functions. Some of the commonly used statistical functions are given here. For additional functions, refer to the Excel help system.


AVERAGE	Calculates the average of a list of values.
COUNT	Counts the number of non-blank numeric cells in a list.
MAX	Finds out the maximum value in a list of values.
MIN	Determines the minimum value in a list of values
STDEV	Calculates the standard deviation of a list of values.
VAR	Calculates the variance of a list of values.
MEDIAN	Returns the median of the given list of values.
MODE	Returns the most frequently occurring value in a range of data.

These function are used on numeric data. Some examples illustrating the use of these functions are =MIN(A1,A2,A3), =MAX(A1:A6) and =AVERAGE(A1,A2,A5,B1:B10).

4.32 INSERTING A FUNCTION



Excel contains hundreds of functions which are classified in several categories, such as Database, Date & Time, Engineering, Financial, Information, Logical, Math and Trigonometry, Statistical, Text, Lookup and Reference and Cube. To help you find and use the required function to perform a specific task, you may take the help of *Insert Function* button on the Formulas tab.

- Click the cell where you want to insert a function and click **Insert Function** () located to the left of Formula Bar (see Fig. 4.59). The Insert Function button is also located on the Formula tab. Excel displays the Insert Function dialog box shown in Fig. 4.60.

The Insert Function dialog box helps you to select a function. If you are looking for a function that can help you to calculate the future value or present value for an investments, type the corresponding words in the *Search for a Function* box and click the **Go** button. Then Excel displays the list of function matching the entered words in the dialog box.

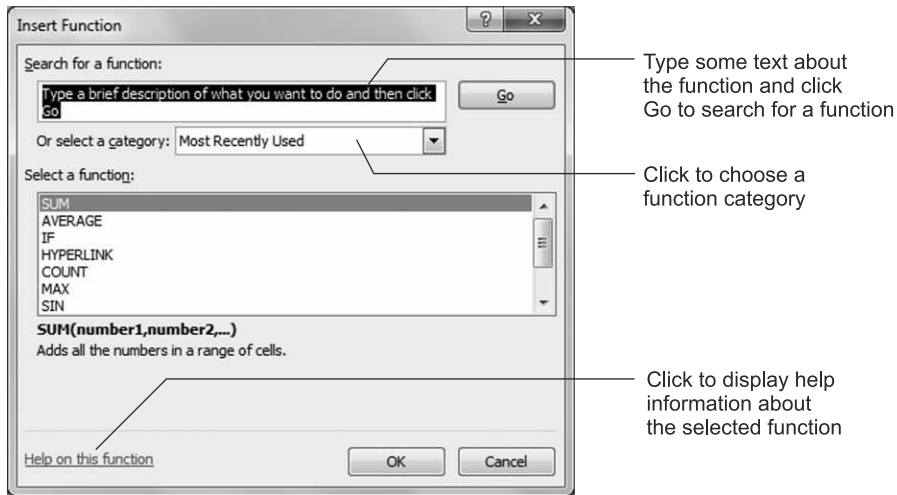


Fig. 4.60 Insert Function dialog box

Another way to select a function is by choosing a function category. As already mentioned, Excel functions are classified into several categories. On clicking in the **Select a Category** dropdown box, Excel displays the list of categories to choose from. On selecting a category, Excel displays the list of functions available for the selected category.

- When you click a function in the *Select a Function* box in the Insert Function dialog box, Excel displays its brief description. For additional information, click the **Help** link, as illustrated in Fig. 4.60, to ask Excel to display the help information for the selected function.
- After you have found the function you want to use, click the **OK** button, and Excel displays the Function Arguments dialog box shown in Fig. 4.61. The dialog box helps you to choose the arguments for the function. The arguments shown in bold letters are required while those in normal letters are optional.

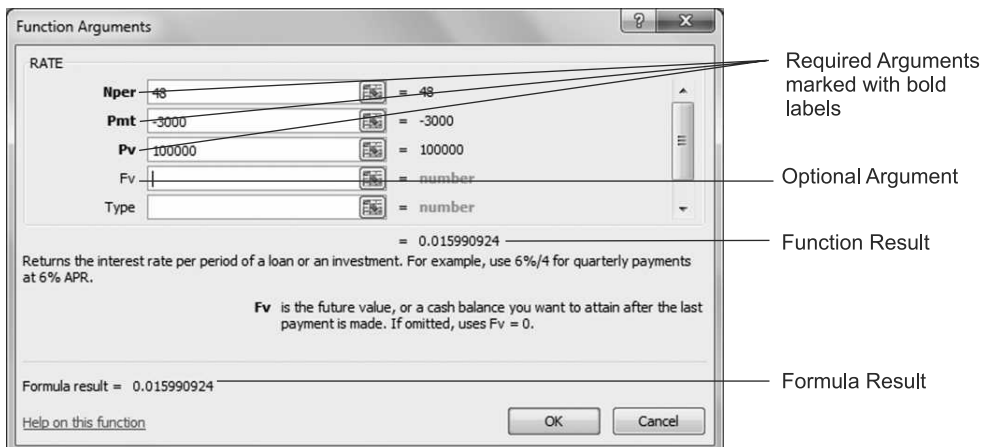


Fig. 4.61 Function Arguments dialog box



4.33 USING MATH FUNCTIONS

Math functions perform mathematical operations on numeric data entered in the worksheet. Some of the commonly used Math functions are discussed in this section.

4.33.1 SUM

The SUM function calculates the sum of values in a list. You have already used the SUM function in the following formats:

1. SUM(C8:G8)
2. SUM(COST)

Besides specifying a single range or the range name, you can specify multiple ranges or constant numbers with SUM. Some examples of SUM are given in the following:

SUM(10,20,30,40)	Sums up the four numbers used with SUM.
SUM(A1:G3,25,27)	Sums up 25, 27 and values in the range A1:G3.
SUM(A1:A3,B1:B3)	Sums up values in ranges A1:A3 and B1:B3.
SUM(PROFIT,SALES)	Sums up values in PROFIT and SALES ranges.
SUM(PROFIT,12,15)	Sums up values in PROFIT,12 and 15.
SUM(PROFIT,A1:C1,10)	Sums up 10 and values in ranges PROFIT and A1:C1.

In fact, the list used with SUM can include up to 255 values or ranges in any sequence. In the same way, you can use a list of numeric values with other statistical functions.

4.33.2 ABS

It calculates the absolute value of a number. In other words, it converts a negative number into the corresponding positive number, e.g., **=ABS(-12.3)** entered in a cell displays 12.3 and **=ABS(15.3)** displays 15.3. Besides using a constant (i.e., fixed number, such as 15.3), a cell reference or range name can also be used with ABS, e.g., **ABS(GAIN)**, **ABS(A12)**, etc.

Note We have not shown the '=' sign before **ABS(GAIN)** and **ABS(A12)**. However, remember that a formula always begins with '='.

4.33.3 EXP

Returns *e* raised to the power of a given number. For example, **=EXP(1)** displays 2.718282 and **EXP(2)** returns 7.389056. A fractional or negative number can also be used with the EXP function.

4.33.4 INT

This function rounds the number down to the nearest integer. For example, **=INT(20.87)** displays 20, whereas **INT(-12.3)** and **INT(-12.9)** return -13.

4.33.5 LN, LOG10 and LOG

The LN function calculates the natural logarithm (base *e*) of the specified positive number. For example, **LN(10)** returns 2.305850. The LOG10 function calculates the common logarithm (base 10), e.g., **LOG10(100)** returns 2. The LOG function calculates the common logarithm (base 10) or to the base that you specify. For instance, **LOG(100)** calculates logarithm of 100 to base 10 and returns 2 as the answer. On the other hand, **LOG(100,2)** returns the logarithm of 100 to the base 2 and returns 6.643856 as the answer.

4.33.6 MOD

This function calculates the modulus (remainder) of two values. For example, **=MOD(1408,10)** displays 8.

4.33.7 RAND

This function returns an evenly distributed random number greater than or equal to 0 and less than 1. A new random number is returned every time the worksheet is calculated. You can multiply the RAND function with a number greater than 1 to generate a random number greater than 1. For example, to generate a random number greater than or equal to 0 but less than 100, use the formula **=RAND()*100**. On pressing the F9 function key, Excel displays a new number in the cell.

4.33.8 ROUND

The ROUND function rounds off a number to the specified number of decimal places. For example, if cell A14 contains 1456.5863, **=ROUND(A14,0)** entered in some other cell rounds off the value in cell A14 (i.e. 1456.5863) to a whole number (0 decimal places) and displays 1457. Similarly, the number stored in cell A14 can be rounded off to one, two or more decimal places, as shown in Table 4.4.

Table 4.4

FUNCTION	DISPLAYED VALUE	REMARKS
=ROUND(A14,1)	1456.6	Cell A14 contains 1456.5863
=ROUND(A14,2)	1456.59	Cell A14 contains 1456.5863
=ROUND(A14,3)	1456.586	Cell A14 contains 1456.5863

You can also round off a number to tens, hundreds and so on by using a negative number with decimal places. For example,

FUNCTION	DISPLAYED VALUE	REMARKS
=ROUND(-56789,-2)	-56800	
=ROUND(56789,-3)	57000	
=ROUND(A14,-3)	1000	Cell A14 contains 1456.5863

Note CEILING and FLOOR are two other useful functions that round up (away from zero) and round down (toward zero), respectively.

4.33.9 SQRT

The SQRT function calculates the square root of a positive number. Similar to other functions, SQRT can be used to calculate the square root of the result of another function, e.g., **SQRT(SUM(C1:C5))** and **SQRT(ROUND(A1,-2))**.

4.33.10 Trigonometric Functions

Excel supports a number of trigonometric functions. Some of the commonly used trigonometric functions in Excel worksheets are ACOS, ACOSH, ASIN, ASINH, ATAN, ATAN2, ATANH, COS, DEGREES, SIN and TAN. For details, refer to the Excel help system.



4.34 USING FINANCIAL FUNCTIONS

Financial functions allow us to calculate loans, depreciation, cash flow, and so forth. In this section, we shall describe the application of commonly used financial functions. Before describing these functions, let us explain certain terms that we come across while using them.

1. **Rate:** Rate refers to the rate of interest per period. Rate is not necessarily the annual rate of interest. Whereas the annual rate of interest is almost invariably used in a practical situation, we have to convert the annual interest rate into a periodic rate while using financial functions. This is so because though the financial institutions specify the annual interest rate, they, however, charge or pay interest on a monthly, quarterly or half-yearly basis.
2. **Period:** Period refers to the time interval between payments.
3. **PMT:** PMT refers to the periodic payments made to pay off a loan or paid into a deposit account.
4. **NPER:** NPER refers to the number of periods. For example, if a bank compounds interest on a six-monthly basis, there will be two periods in a year. Similarly, if you deposit ₹1000 every month in a bank account, you will use 12 as the NPER in calculations. Normally you have to convert years into NPER in financial functions.

4.34.1 Using RATE

The RATE function can be used to calculate the interest rate charged to pay off a loan. Suppose you have taken a loan of ₹100,000 that has to be paid off in 48 monthly instalments of ₹3,000 each. In this case, you can use the RATE function to calculate the rate of interest charged on this loan. The RATE function has the following syntax:

`RATE(nper, pmt, pv, fv, type, guess)`

Here *nper* is the total number of payment periods. In our case, *nper* is 48. *Pmt* is the payment made each period, which in our case is 3000. *Pv* is the present value of the total amount that a series of future payments is worth now. In case of a loan, *Pv* is equal to the total loan amount. Thus, in our case, *Pv* is 100000. *Fv* is the future value at the end of the last payment. The future value of a loan is 0. Therefore, in this example, we can omit or use 0 for *fv*. *Type* is the number 0 or 1. It indicates when payments are due. If *type* is omitted or 0; it means that payments are made at the end of period. On the other hand, if payments are made at the beginning of the period, use 1 for *type*. *Guess* is your guess for what the rate may be. If you do not use *guess* in the function, Excel assumes the *guess* to be 10%. While using the RATE function, the first three arguments, i.e., *nper*, *pmt* and *fv* are compulsory, and the other three parameters, i.e., *fv*, *type* and *guess* are optional.

Thus, you can use the following arguments for calculating the rate of interest for the loan of ₹100,000 that has to be paid off in 48 equal monthly installments of ₹3000 each.

<i>nper</i>	48	
<i>pmt</i>	-3000	
<i>pv</i>	100000	
<i>fv</i>	0	
<i>type</i>	0	if the first payment starts after 1 month,
	1	if the first payment is made on receiving the loan.

Note In Excel, the payments that you make are entered as negative values, and the payments that you receive are entered as positive values. In other words, cash outflows are entered as negative and cash inflows are entered as positive values.

- Enter **=RATE(48,-3000,100000)** in a cell, and Excel displays 2% as the result. Use the **Increase Decimal** button on the Home tab to increase the number of decimal digits in the result, e.g., 1.60%.

The result (1.60%) means that you are paying a periodic interest rate of 1.60% to pay off the loan. To get the annual rate of interest, we multiply 1.60% with 12 (since we are making monthly payments). Thus, the annual interest rate is 1.60% \times 12, i.e., 19.2%.

The above calculation is based on the assumption that the payments are made at the end of each period. If the payments are made at the beginning of each period (month), we can use the following function: **RATE(48,-3000,100000,1)**.

You can also take the help of the Function Argument dialog box to enter the arguments to use the RATE function, as shown in Fig. 4.61. Notice that as you enter arguments in the dialog box, Excel updates the function in the worksheets and displays the result in the dialog box after you have entered the required arguments. Finally, press **OK** to insert the function in the worksheet.

4.34.2 Using FV to Calculate the Future Value

The FV function returns the future value of an investment based on periodic, constant payments and a constant interest rate. For example, you want to save some money for purchasing a motorcycle after two years. You open a special deposit account where you deposit ₹2000 at the beginning of every month. The bank pays 12% annual rate that is compounded every month. (In other words, the monthly rate of interest is 12%/12, i.e., 1% per month.) To find out how much money will be in the account at the end of 24 months, we can use the FV function. This function has the following syntax:

FV(rate, nper, pmt, pv, type)

Here, *rate* is the periodic rate of interest. All other arguments have the same meaning as discussed with the RATE function. (*Pv* and *type* are optional.) In this example, we will use the following arguments with the FV function:

rate	0.12/12	
nper	24	
pmt	-2000	
pv	0	
type	1	(The first deposit is made at the beginning of the month.)

Notice that we have to convert the annual rate of interest into the periodic (monthly) rate of interest as the payments are made on monthly basis. You can also enter 12%/12 as rate as Excel automatically uses 0.12 for 12%.

- Enter **=FV(12%/12,24,-2000,0,1)** in a cell or use the Insert Function button to enter it. Excel displays 27,243.20 as the result. That is, you would have ₹54,486.40 in your account after 24 months.

4.34.3 Using PV to Calculate the Present Value

The PV function can be used to calculate the present value of a series of equal payments to be received in future. These payments are discounted at a fixed periodic rate of interest. Obviously, the discount rate has to be realistic and is usually about the current interest rate. Suppose, for instance, you expect to receive ₹800 every month over the next 24 months. If the current discount (interest) rate is taken as

12.00% per annum, let us calculate the present value of these future payments to be received by using the PV function. This function has the syntax:

PV(rate, nper, pmt, fv, type)

Here, *rate* is the periodic rate of interest. All other arguments have the same meaning as discussed with the RATE function. (*Fv* and *type* are optional.) In this example, we will use the following arguments with the PV function:

rate	0.12/12	
nper	24	
pmt	-800	
fv	0	
type	0	if the first payment starts after 1 month,
	1	if the first payment starts at the beginning of the month

Fv is taken as 0 as no payments are received after the last payment is received.

- Enter **=PV(0.12/12,24,-800)** in a cell.
Excel displays 16,994.71 as the result. That is, the present value of a series of 24 monthly payments at a discount (interest) rate of 12% per annum is ₹16,994.71.

4.34.4 Using PMT

The PMT function can be used to calculate the equal periodic payments required to pay off a loan. Consider, for example, that you want to take a loan of ₹200,000 at an annual interest rate of 14%. The loan has to be repaid in 15 years in equal monthly instalments. You can calculate the required monthly instalment (EMI) with the PMT function. This function has the following syntax: PMT(rate, nper, pv, fv, type). Here, fv and type are optional.

In this case, we can use 14%/12 as *rate* (since we are making monthly payments, we have to use the monthly rate of interest), 180 as *nper* (15 x 12) and 200000 as *pv*. Since fv is zero and we are making payments at the end of the month, we can omit fv and type.

- Enter **=PMT(14%/12,180,200000)** in a cell and Excel displays -2663.48 as the result. (Excel may display the negative number in parenthesis or in different color.) That is, to pay off a loan of ₹200,000 at 14% annual rate of interest in 180 monthly instalments, you have to pay ₹2,663.48 every month.

4.34.5 Calculating Net Present Value with NPV

The NPV function is a slightly modified form of PV. It calculates the *net present value* of a series of cash flows discounted at a fixed interest rate. These cash flows, which need not be equal, occur at fixed intervals and the first cash flow occurs at the end of the first period. For example, consider the worksheet shown in Fig. 4.62. You expect to get five monthly payments that are entered in the range C2:C6. Assume that the discount (interest) rate that is entered in cell C8 is 10% per annum. We can use the NPV to calculate the net present value of these cash inflows or incomes. The syntax of the NPV function is:

NPV(rate, value1, value2, ...)

The formula **=NPV(C8/12,C2:C6)** entered in cell C9 displays ₹3,291.31. In this example, all values in the range C2:C6 are entered as positive values since these are payments received (cash inflows) or

income. If you have to make a payment, i.e. there is a cash outflow, it has to be entered as a negative number.

4.34.6 Calculating Internal Rate of Return with IRR

The IRR function calculates the *internal rate of return* (IRR) expected from a series of cash flows occurring at regular intervals. This is illustrated in Fig. 4.62. Here, an initial investment of ₹100,000 entered in cell F2 results in 12 annual cash flows. The initial investment, which is an outflow, is entered as a negative value. The cash inflows (income) are entered as positive values in the range F3:F14. The IRR function has the following syntax:

IRR(values, guess)

Month	Amount Received	Cash Flow
1	₹ 500	Initial Investment ₹ -1,00,000
2	₹ 900	Expected Cash Flow ₹ 13,200
3	₹ 550	₹ 15,000
4	₹ 478	₹ 13,000
5	₹ 950	₹ 12,000
		₹ 12,400
		₹ 16,000
		₹ 14,000
		₹ 16,450
		₹ 17,690
		₹ 16,550
		₹ 16,550
		₹ 12,200
		IRR 9.51%

Fig. 4.62 Using NPV and IRR

Here, *values* includes the range of cash outflow (the initial investment) and cash inflows. *Guess* is optional and in most of the cases, you can omit it. A formula **=IRR(F2:F14)** displays 9.51% as the result. This is the internal rate of return (IRR) for the investment of Rs. 100,000 with the expected cash inflows.

4.35 USING TEXT FUNCTIONS



Generally, most real-life workbooks have lot of text. After the text has been entered in the workbook, sometimes you feel the need to modify the text. For instance, you have entered the names of employees in upper case and now you want to change the text to proper case. Or you may like to find out the

longest name you have entered in a range. Excel has several built-in functions for manipulation of text. You may find the text functions particularly useful when data is transferred or copied from some other application, such as FoxPro or Word. Some of the common text functions are discussed in brief in this section. For more information on these or other text functions, refer to the Excel help system.

4.35.1 UPPER

The UPPER function converts the text to uppercase. For example, if cell A1 contains 'Ram Krishna', **=UPPER(A1)** entered in some other cell displays 'RAM KRISHNA' in that cell.

4.35.2 LOWER

The LOWER function is opposite of UPPER. That is, **LOWER("Train")** or **LOWER("TRAIN")** returns 'train'.

4.35.3 PROPER

The PROPER function converts the text to proper case, i.e., it capitalizes the first letter in each word of the text. For instance, **=PROPER("Raj KUMAR")** or **=PROPER("raj kumar")** displays 'Raj Kumar'.

4.35.4 LEFT

The LEFT function returns the specified number of characters from the left side of a text string. For instance, if cell A1 contains 'Ram Krishna', **=LEFT(A1,3)** displays 'Ram', being the leftmost 3 characters.

4.35.5 RIGHT

The RIGHT function, which is opposite of the LEFT functions, returns the specified number from the right side of a text string. For instance, if cell A1 contains 'Ram Krishna', **=RIGHT(A1,7)** displays 'Krishna', being the rightmost 7 characters.

4.35.6 MID

The MID function returns a specified number of characters from a text string starting at the specified character position. This function has the syntax—*MID(text, start_num, num_characters)*. For instance, **=MID("High-tension lead", 6,7)** displays 'tension'.

4.35.7 CLEAN

The CLEAN function removes nonprintable characters from text. You may find this function useful when your worksheet contains data exported by another application.

4.35.8 LEN

The LEN function returns the number of characters including spaces in a text string. For instance, **=LEN("TRAIN")** displays 5.

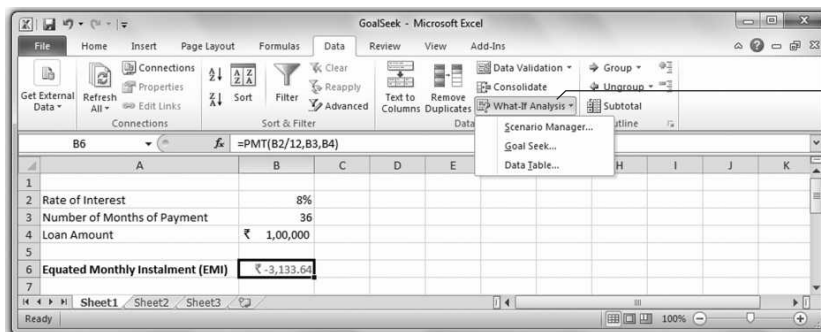
4.35.9 CONCATENATE

The CONCATENATE function is used to join several character strings together. For instance, if cell B1 contains 'Ram' and cell B2 contains 'krishna', **=CONCATENATE (B1,B2)** displays 'Ramkrishna'.



4.36 USING GOAL SEEK

Consider the formula `=PMT(B2/12,B3,B4)` entered in cell B6 in Fig. 4.63. It calculates Equated Monthly Instalment (EMI) to pay off a loan of ₹100,000 at 8% annual interest rate in 36 months. Notice that we have used “B2/12” in the formula to convert the annual interest rate to the monthly interest rate because the repayment frequency is monthly. The formula result means that the required monthly EMI payment is ₹3,133.64.



Click the button and choose **Goal Seek** to open the Goal Seek dialog box

Fig. 4.63 Using Goal Seek on the PMT() function

Now, let us assume that customer cannot afford this EMI payment and wants to find out the number of months it will take to pay off the loan if he/she reduces the monthly payment to ₹2,500. In this situation, you would find Excel's *Goal Seek* useful.

- To use this tool, click the Data tab. Next, click the cell that contains the PMT formula, i.e., cell B6, click **What-If Analysis** and then click **Goal Seek** as illustrated in Fig. 4.63. In response to this command, Excel displays the Goal Seek dialog box shown in Fig. 4.64

Goal Seek helps you to find the input value required to get the desired result. The Goal Seek dialog box contains three text boxes:

- Set Cell :** Contains the formula.
- To Value:** Desired result value.
- By Changing Cell:** The cell whose value should be changed to get the desired result.

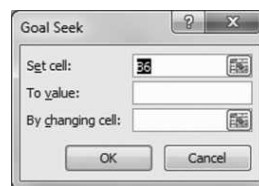


Fig. 4.64 Goal Seek dialog box

- The *Set Cell* already contains B6, the cell containing the formula. If we enter **-2500** in the *To Value* box and **B3** in *By Changing Cell* box, and click **OK**, Excel displays the Goal Seek Status dialog box on the screen and puts 46.6781 in cell B3, which means that it will take 46.67 months to pay off the loan at ₹2,500 per month.

4.37 USING IF TO MAKE A FORMULA FLEXIBLE



We need to use flexible formulas several times in our day-to-day life. For instance, if the gross total value of items purchased by a customer is ₹4000 or more, he/she is entitled to a 15% discount, otherwise

to 10%. Similarly, if a guest stays in a hotel for three or more days, he/she is entitled to a 10% discount; however there will be no discount for a stay of less than three days. In these situations, we need to use a formula that depends on the result of a condition. This can be accomplished by using the IF() function in the formula, which has the following syntax:

IF(condition, true-value, false-value)

This function checks for the *condition* and if the condition is evaluated as true, it returns *true-value*, else, i.e., when the condition is false, it returns *false-value*. Consider the formula entered in a cell.

=IF(B4 >= 4000, 0.15, 0.10)

Excel checks for the contents of cell B4. If it contains a value that is more than or equal to 4000, it displays the *true-value*, i.e., 0.15, otherwise, Excel displays the *false-value*, i.e., 0.1. Similarly, the formula =IF(B4 >= 4000,B4*15%,B4*10%) entered in a cell calculates a discount equal to 15% or 10% depending on the condition “B4 >= 4000”.

4.38 SORTING DATA





Excel is often used to manage large amount of data, such as payroll details for employees working in an office, products sold by salesperson of a company during a year, daily temperature and rainfall details for a city during the last two years, and so on. This type of information, which can run into hundreds, or even thousands of rows is known as list, table, data list or even *database*. Often we need to rearrange the long list of data in the desired order, e.g., you may like to sort the employees’ list entered in the STAFF workbook file shown in Fig. 4.65 in an alphabetical order of names, department or designation.


Name	Department	Designation	Salary	Bonus
Ankur Tiwar	Production	Assistant	45,000	4,500
Anu Sharma	Sales	Manager	60,000	6,000
Raj Verma	Sales	Assistant	48,000	4,800
Tarun Singh	Production	Engineer	70,000	7,000
Mansi Chopra	Personnel	Regional Manager	65,000	6,500
Rani Arora	Personnel	Stenographer	39,000	3,900
Chitra Narayana	Sales	Accounts Officer	52,500	5,250
Latha Hariharan	Sales	Regional Manager	74,000	7,400
Srikant	Production	Foreman	32,000	3,200
Rahul David	Sales	Assistant	42,000	4,200
KVS Swamy	Production	Manager	64,000	6,400
Vinay	R&D	Engineer	71,000	7,100
Sunder	R&D	Engineer	73,000	7,300
Kirti Azad	Sales	Assistant	42,000	4,200

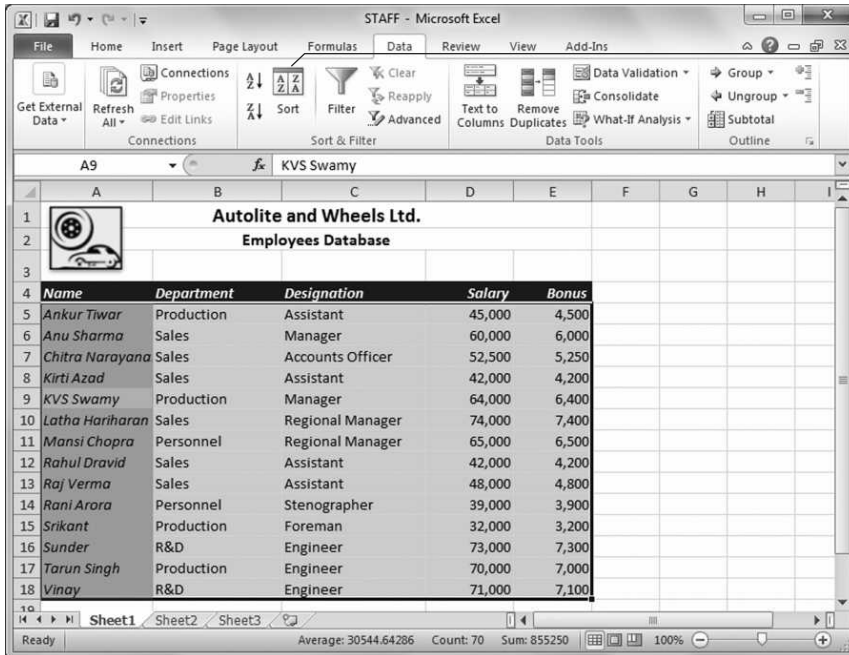
Fig. 4.65

Workbook containing list of employees

4.38.1 Using Sort Buttons

To quickly sort a the data list (database) in ascending or descending order, Excel provides two buttons on the Data tab:  (Sort Ascending) and  (Sort Descending). You may use these buttons to sort the data on the ascending or descending order of any field (column). For instance, to sort the employees' database shown in Fig. 4.65 in the ascending order of names:


- Click any cell in column A (e.g., cell A9) in the data list range. Click the **Data** tab, if required and click . Figure 4.66 displays the employees' list sorted on the Name field.



Click to open the Sort dialog box to perform multi column (field) sort

Fig. 4.66 Employees' list sorted in ascending order of names

Note You can also access the Sort and Filter commands by clicking the **Sort & Filter** button on the Home tab and then choosing the required command from the drop-down menu.

- To change the sorting in the descending order of names, you may click  while the cell pointer is located anywhere in column A in the data list range. Similarly, to sort the database on Department, Designation or Salary column, move the cell pointer anywhere in the corresponding column in the list and click the required Sort button.

4.38.2 Sorting on Multiple Columns (Fields)

The Sort buttons can sort the data only on a single column. To sort the data on multiple columns (fields), you can use the Sort Dialog box. Let us sort the employees' list shown in Fig. 4.65 in ascending order of Department, ascending order of Designation and from smallest to largest value of Salary.

- Click any cell in the data range, e.g., cell B8. Click the **Data** tab, if required and then click the large Sort button. (See Fig. 4.66.)

Excel displays the Sort dialog box shown in Fig. 4.67. If your database is sorted on some column, Excel displays the corresponding fieldname in the *Sort By* box. Notice that the 'My list has headers' check box in the top right corner is checked as our list has column headings in the top row of the list.

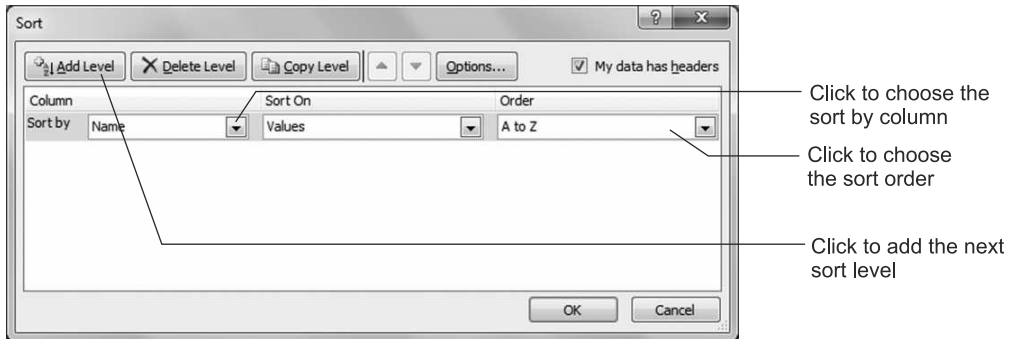


Fig. 4.67 Sort dialog box

- Click the **Sort by** drop-down list box and click **Department**, the first sort by column. The default value of *Sort On*, Values is okay. Similarly, the default value of sort order, which is "A to Z" is good for the ascending order sort.
- Click **Add Level** to add controls for the next sort level on the Designation column. Choose *Designation* as Sort by column. Default values of *Sort On* and *Order* are good in this case.
- Click **Add Level** to add controls for the last sort level. Choose *Salary* as Sort by column. Default values of *Sort On* and *Order* are good in this case. At this stage, the Sort dialog box should look similar to Fig. 4.68.

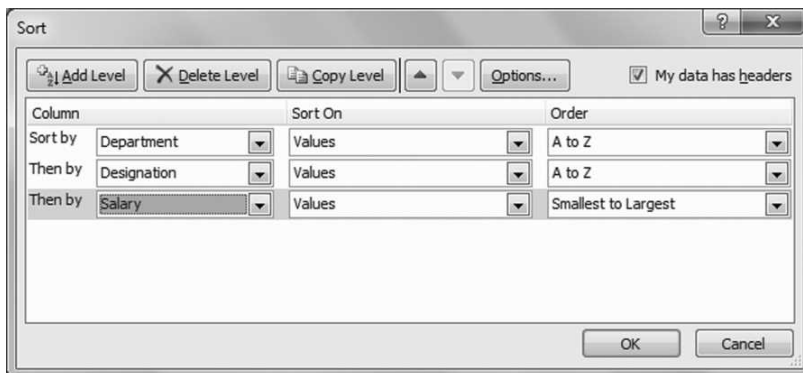


Fig. 4.68 Sort dialog box with three sort by columns

- Click **OK** to ask Excel to sort the list as shown in Fig. 4.69.

Name	Department	Designation	Salary	Bonus
Mansi Chopra	Personnel	Regional Manager	65,000	6,500
Rani Arora	Personnel	Stenographer	39,000	3,900
Ankur Tiwar	Production	Assistant	45,000	4,500
Tarun Singh	Production	Engineer	70,000	7,000
Srikant	Production	Foreman	32,000	3,200
KVS Swamy	Production	Manager	64,000	6,400
Vinay	R&D	Engineer	71,000	7,100
Sunder	R&D	Engineer	73,000	7,300
Chitra Narayana	Sales	Accounts Officer	52,500	5,250
Kirti Azad	Sales	Assistant	42,000	4,200
Rahul David	Sales	Assistant	42,000	4,200
Raj Verma	Sales	Assistant	48,000	4,800
Anu Sharma	Sales	Manager	60,000	6,000
Latha Hariharan	Sales	Regional Manager	74,000	7,400

Fig. 4.69 Data sorted on three columns

4.39 FILTERING DATA



When the data list in a worksheet contains a lot of rows, it is helpful to analyze data if we can view only the data that meets specified criteria and temporarily hides other rows. For instance, while working on Managers in the employees' list similar to Fig. 4.65, you can hide employees who are not managers. Excel enables you to accomplish this by applying *AutoFilter* on a data list. Let us try AutoFilter on the staff list shown in Fig. 4.69.

- Click any cell in the data range, e.g., cell B8. Click the **Data** tab, if required and then click the **Filter** button. (See Fig. 4.70.)

Excel applies AutoFilter on the data and displays *drop-down arrows* on the right side of all columns in the header row, as shown in Fig. 4.70. These arrows enable you to display only those rows (records) in a data list that contain a specified value (e.g., Salary = 65000 or Designation = Manager), or that meet a set of criteria (e.g., Department = Sales and Salary > 46000).

- To specify criteria on a particular column, you need to click the corresponding drop-down arrow. For example, on clicking the drop-down arrow on the right side of **Designation** field, Excel displays a drop-down list as shown in Fig. 4.71.

Click to apply AutoFilter

Click to display the drop-down list for the Designation field

Drop-down arrows

Name	Department	Designation	Sal	Bon
Mansi Chopra	Personnel	Regional Manager	65,000	6,500
Rani Arora	Personnel	Stenographer	39,000	3,900
Ankur Tiwar	Production	Assistant	45,000	4,500
Tarun Singh	Production	Engineer	70,000	7,000
Srikant	Production	Foreman	32,000	3,200
KVS Swamy	Production	Manager	64,000	6,400
Vinay	R&D	Engineer	71,000	7,100
Sunder	R&D	Engineer	73,000	7,300
Chitra Narayana	Sales	Accounts Officer	52,500	5,250
Kirti Azad	Sales	Assistant	42,000	4,200

Fig. 4.70 Using AutoFilter

Click to display the drop-down list for the Designation field

Click to apply custom filter

Click Select All to uncheck all check boxes. Then check the required option(s)

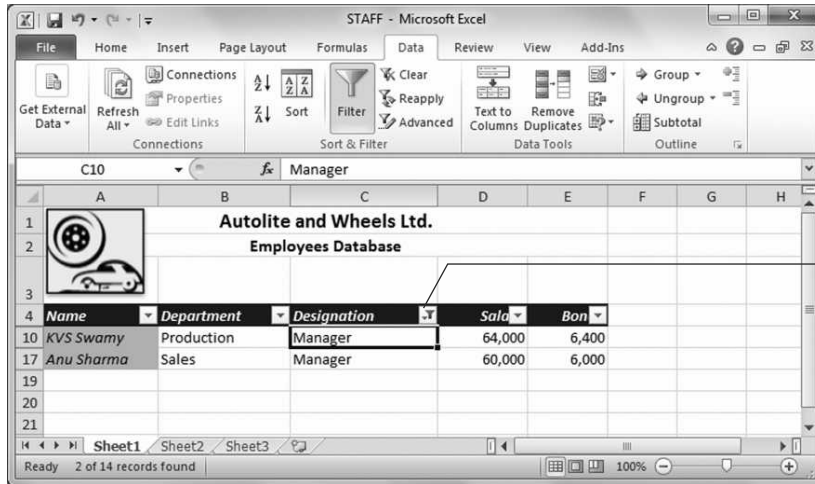
Name	Department	Designation	Sal	Bon
Mansi Chopra	Personnel	Regional Manager	65,000	6,500
Rani Arora	Personnel	Stenographer	39,000	3,900
Ankur Tiwar	Production	Assistant	45,000	4,500
Tarun Singh	Production	Engineer	70,000	7,000
Srikant	Production	Foreman	32,000	3,200
KVS Swamy	Production	Manager	64,000	6,400
Vinay	R&D	Engineer	71,000	7,100
Sunder	R&D	Engineer	73,000	7,300
Chitra Narayana	Sales	Accounts Officer	52,500	5,250
Kirti Azad	Sales	Assistant	42,000	4,200
Rahul Dravid		Assistant	42,000	4,200
Raj Verma		Engineer	48,000	4,800
Anu Sharma		Manager	60,000	6,000
Latha Harihara		Regional Manager	74,000	7,400

Fig. 4.71 Choosing AutoFilter options on the Designation field

The list displayed on clicking the drop-down arrow is used to apply a filter on the selected column.

- Click **Select All**, the first check box to uncheck all selections.
- Next, click **Manager**, as we want to display rows containing Manager in the Designation column.
- Finally, click **OK** to ask Excel apply AutoFilter.

The filtered list should look similar to Fig. 4.72. Notice that icon displayed to the right of the Designation column has changed to the filter icon (🔍).



Click the Filter icon to display a drop-down menu to update filter. Click the **Clear Filter** command in the menu to clear the filter.

Fig. 4.72 AutoFilter applied on the Designation field

Note If you want to filter data with more than one option, e.g., Manager and Assistant, check the required options before clicking OK.

4.39.1 Applying Custom Filter

To apply a custom filter, e.g., Designation begins with “A”, Salary > 50000, Salary >= 50000 and Salary <= 60000, top 10, above average, below average, etc., click **Text Filters/Number Filter** (see Fig. 4.71) and choose the required option from the menu.

4.39.2 Removing Filter

- To remove the filter applied on a column, click the corresponding field’s Filter icon (see Fig. 4.72) and the **Clear Filter** command in the drop-down menu.
- To completely remove AutoFilter from the data, click the **Filter** button on the Data tab.

4.39.3 Applying Filter on Multiple Columns

- You can apply filter on multiple columns, e.g., employees belonging to the Sales department and who are Assistant. To do so, apply AutoFilter on the first column in the usual way. After Excel displays the filtered data, apply AutoFilter on the second column in the same way.



4.40 USING DATABASE FUNCTIONS

Database functions are similar to the statistical functions already discussed in this chapter. However, the difference between the two is that database functions use only those records in calculations that meet the specified criteria. For instance, from the employee database, you can calculate the average salary of the employees working in a particular department; the sum of salaries paid to the employees of a particular department; the number of employees working in a particular department. The commonly used database functions are listed in Table 4.5. In this section, you will use some of the database functions on employees' list (database).

Table 4.5 Common database functions

DAVERAGE	Calculates the average value in a field of a database based on specified criteria.
DCOUNT	Counts the cells that contain numbers that match the criteria in the field column of records in the database.
DMAX	Finds the largest value in a field from the selected records of a database.
DMIN	Finds the minimum (least) value in a field from the selected records (based on the specified criteria) in a field of a database.
DSTDEV	Calculates the standard deviation of the selected records (based on the specified criteria) in a field of a database.
DSUM	Calculates the sum of the selected records of a database.
DVAR	Calculates the population variance of the selected records of a database.

Figure 4.73 shows the use of the DMAX function to calculate the maximum salary payable to the employees working in the Production department (criteria). Here the data (database) is entered in the range A4:E18 and criteria in the range G4:G5. Notice that the function entered in cell D20 uses range names. (See the section on how to define range names. If you do not define range names, specify the range address with DMAX, e.g., the **DMAX(A4:E18,4, G4:G5)** function.) The DMAX function has the following syntax:

DMAX(database,field,criteria)

Therefore, to use this function, we need to specify three arguments (data):

1. **Database:** This specifies the database rows (records), including column names (fieldnames) to be used in calculations.
2. **Field:** *Field* is a positive number that specifies the field in the database range to be used for calculations. Use 1 for the first field, 2 for the second field, and so on. For instance, the Salary field in Figure 4.73 has the number 4.
3. **Criteria:** This specifies the range containing the condition(s) to be applied to the database.

Thus, in the function **DMAX(Input,4,Criteria)**, *Input* is the name of the range that contains the database (A4:E18), 4 is the field number (Salary) and *Criteria* is the name of the range than contains the criteria (G4:G5) to be applied on the database. Accordingly, the function calculates the maximum salary of the employees working in the Production department.

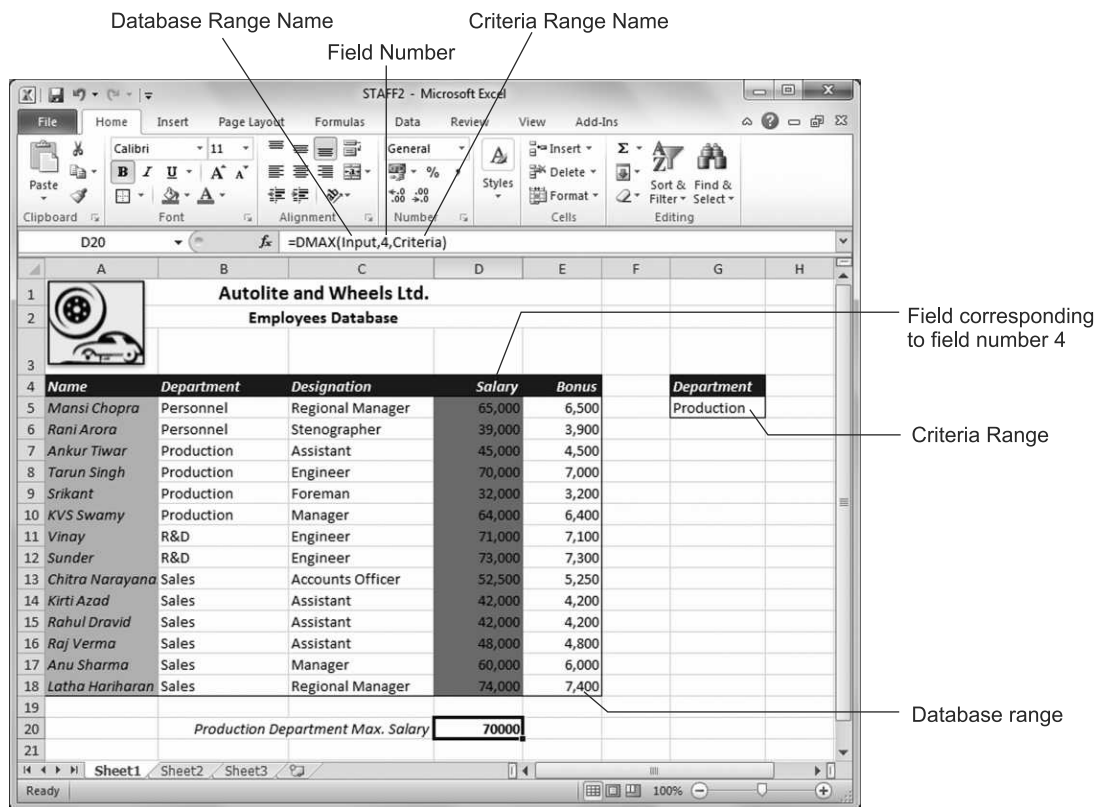


Fig. 4.73 Using the DMAX database function

4.41 INSERTING PICTURE, CLIP ART, SHAPES, SMART ART, SCREENSHOTS, WORDART, TEXT BOX AND SYMBOL



Excel includes several useful tools in the Illustration group on the Insert tab to insert pictures, clip art, shapes, smart art and screenshots in your worksheet. The Insert tab also includes other tools to insert WordArt, text box and symbols. Figure 4.74 displays a few of these objects inserted in a worksheet.

The process of inserting a clip art, WordArt, smart art, text box and symbol in an Excel worksheet is exactly the same as in Word document. For instance,

- To insert a picture, click the **Picture** button, choose the picture and drag the mouse on the worksheet to place it at the desired location.
- Take the help of the Picture Tools displayed by Excel on the Ribbon to resize, reposition or format the inserted picture.
- You can insert a WordArt, clip art, text box, etc., in the same way. Refer to Sections 3.37 through 3.39 to learn more about how to insert these object.

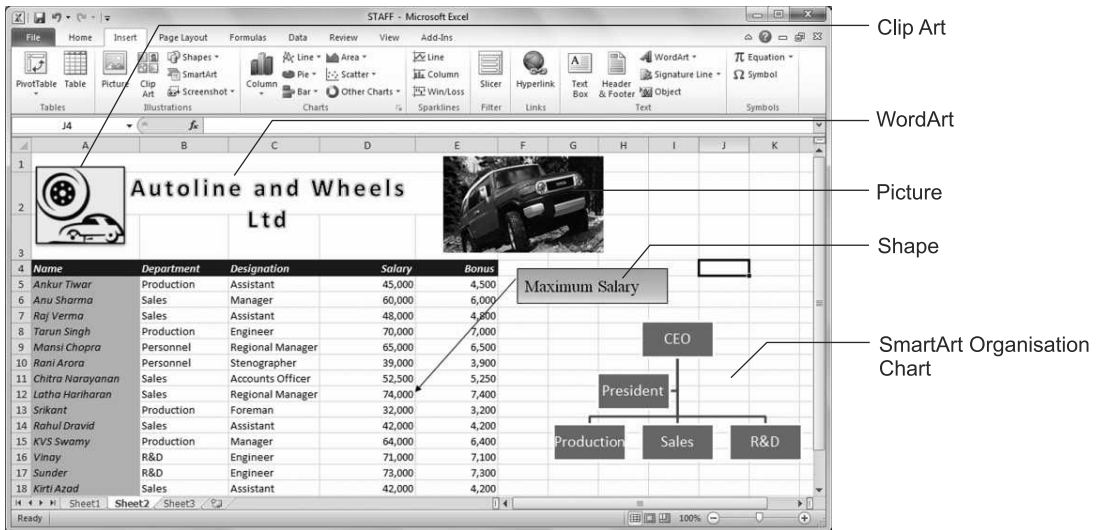


Fig. 4.74 Clip art, WordArt, picture, shape and SmartArt used on a worksheet

4.42 COPYING THE FORMAT USING FORMAT PAINTER



Format Painter (🖌️) can help you save time by quickly applying the formatting from one cell to another. The copied formats can then be pasted (applied) to any cell or range in the same or another workbook. Consider the worksheet shown in Fig. 4.75. You will agree that it will more than a few mouse clicks to format a cell like B3. Assume that you want to use exactly the same format on cell C3. Instead of using so many formatting commands again, you can use Format Painter to copy the formatting from cell B3 and then paste it on cell C3. It requires the following steps:

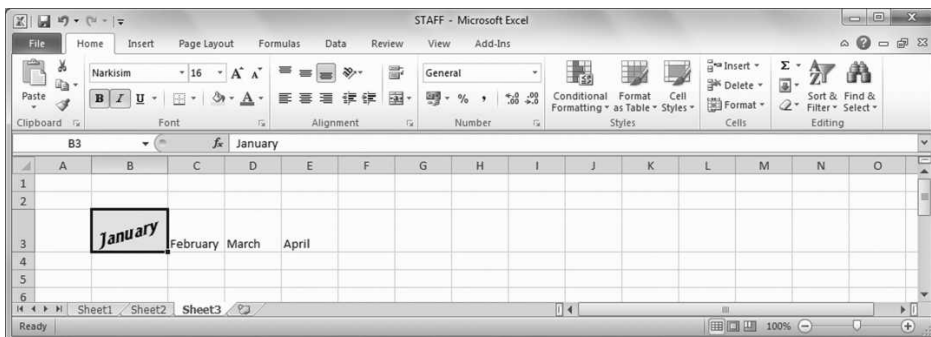


Fig. 4.75 Using Format Painter to copy format

- Click cell **B3** whose format you want to copy.
- Click 🖌️ on the Mini toolbar or the Clipboard group on the Ribbon. Excel changes the shape of the mouse pointer by attaching a paintbrush to it.

- Click cell **C3** and Excel formats this cell exactly like cell B3.

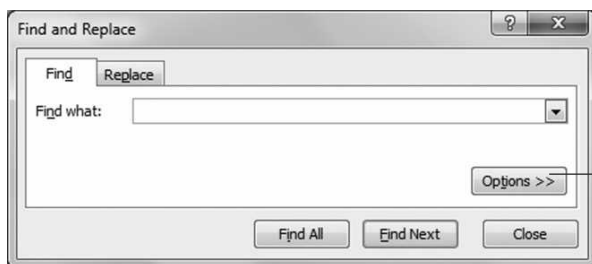
In the last step, we applied the copied format to a single cell. If you like, you can apply the copied format to multiple cells by dragging through the range where you want to apply the formatting.

4.43 FINDING AND REPLACING DATA IN A WORKSHEET



The Find command can help you to quickly locate a cell containing the specified data. You would find this command particularly useful when your worksheet contains many rows and columns, or it contains several worksheets.

- To find text, press **Ctrl+F**. Alternatively, click **Find and Select** button on the Home tab to display a menu and then click **Find** in the menu. Excel displays the Find and Replace dialog box shown in Fig. 4.76.



Click to display Find and Replace options

Fig. 4.76 Find and Replace dialog box

- Enter the text you want to search for in the Find What text box and click the **Find Next** button. By default, Excel searches for the text in the current worksheet. If you want to search in all worksheets, click **Options** and choose the *Workbook* option prior to clicking **Find Next**.
- If you want to view all occurrences of the search text, click **Find All** in the Find and Replace dialog box. In that case, it lists the matching cells in the dialog box.

If you wish to find a specified text and replace it with another text, press **Ctrl+H** or choose the Replace command from the *Find and Select* menu. The Find and Select menu also has commands to search for comments, formulas, conditional formatting, etc.

4.44 SPELLING CHECK



To ensure that there are no spelling mistakes in your worksheet, you can take the help of Excel's spelling checking tool.

- To start spelling checking, press **F7** or click **Spelling** button on the **Review** tab.

The spelling checking in Excel works similar to that in the Word program. That is, Excel checks if all words used in a sheet can be found in the built-in or custom dictionaries. If any word is not found in these dictionaries, Excel tries to offer suggestion(s) for replacing that word.

- If you feel that the word is spelled correctly, click the **Ignore** or **Ignore All** button.

- To accept any suggestion, click the suggestion that you want to use and click **Change** or **Change All** button.

For more information on how to use spell check, refer to Chapter 3. If you select a range prior to invoking spelling checking, Excel checks only the selected range; otherwise, it checks the entire sheet. The spelling checking is done only on the active sheet(s). Therefore, if you do not select multiple sheets, it checks only the current sheet. To select multiple sheets at once, perform these steps.

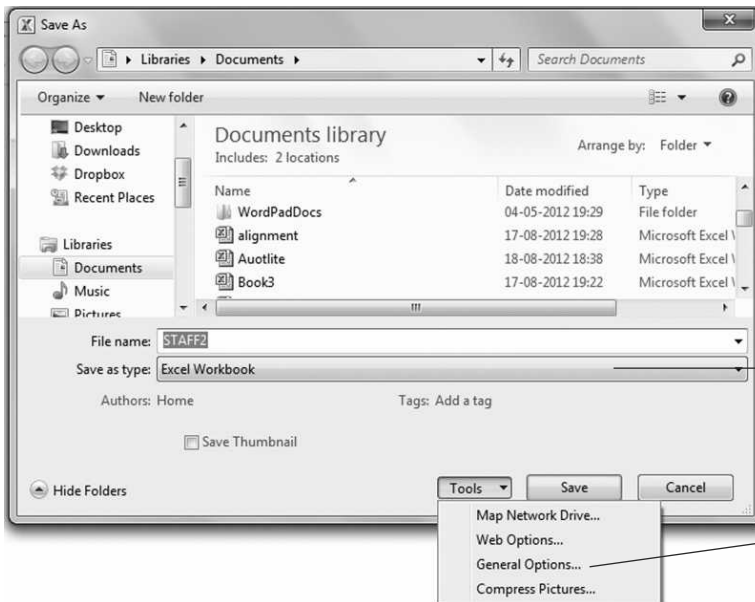
- Click the Sheet name on sheets tab that you want to select.
- To select another sheet, press and hold the **Ctrl** key and click the sheet name. When multiple sheets are selected, Excel displays '[Group]' in the title bar. You can repeat this step to select additional sheets.
- Press **F7** to start spelling checking.

4.45 PROTECTING A WORKBOOK WITH A PASSWORD



To prevent unauthorized access to your workbook file, you can assign a password to it. Excel supports two types of passwords—(a) a password to open the workbook file and (b) a password to change the workbook. You can define either or both passwords for any workbook file.

- To password protect the current workbook, click **File** to go to the Backstage view and click **Save As** to open the Save As dialog box.
- Click **Tools** to display a submenu shown in Fig. 4.77.



Click to display the file type options

Click General Options to password protect the workbook

Fig. 4.77 Password Protecting a workbook

- Click **General Options** to display the General Options dialog box shown in Fig. 4.78.

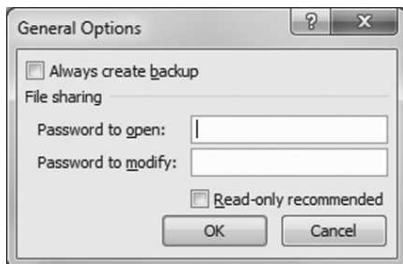


Fig. 4.78 General Options dialog box to define passwords

The dialog box allows you to define two passwords—one to open the workbook and the second to modify the workbook. The use of *Password to modify* is optional.

- After defining password(s), Word asks you to reconfirm the passwords.

Remember that passwords are case-sensitive and if you forget these, you may not be able to open the document. That is, after defining 'swamy' as the password, you cannot enter 'Swamy' or 'SWAMY' to open the workbook.

4.46 PROTECTING A SHEET IN A WORKBOOK



If your workbook contains several sheets and a particular sheet contains important data or formulas that you do not want other users to change, you may protect that sheet. The sheet protection is done independent of the workbook protection. In other words, you may protect a sheet even when the workbook is not protected.

- To protect a sheet, click the **Review** tab, click the **Protect Sheet** button in the Changes group and Excel displays the Protect Sheet dialog box shown in Fig. 4.79.

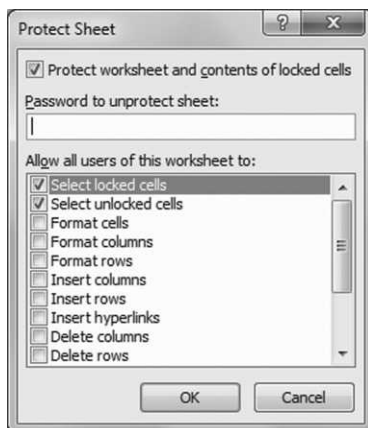


Fig. 4.79 Protect Sheet dialog box

- Now enter a password and click **OK**. Excel asks you to reconfirm the password.
- After a sheet has been protected, Excel does not allow you to make changes to the data. To make changes to the data, you need to unprotect the sheet by clicking **Unprotect Sheet** on the Review tab and providing the correct password.

Note Advanced users may unlock specified range(s) on a worksheet through the **Allow Users to Edit Ranges** button on the Review tab prior to protecting a worksheet. In that case, Excel allows to make changes in the unlocked range(s) while rest of the worksheet remains read-only.

4.47 IMPORTING AND EXPORTING DATA



Excel enables you to import data from a number of other sources, such as an Access database, Web pages, text files (.txt, .csv), SQL Server, etc. To import external data into an Excel worksheet, click **Get External Data** on the Data tab, choose appropriate option and choose the data source.

In the same way, you can save an Excel workbook in several different file formats by choosing the desired file format in the *Save As Type* box in the Save As dialog box, as shown in Fig. 4.77. Now choose the desired format and click OK to save the Workbook in the selected format.

4.47.1 Saving a Workbook as a PDF File

Excel provides a convenient command to create a PDF file from a workbook on the Backstage view. This functionality works exactly as in Microsoft Word already discussed in the previous chapter. Refer to Section 3.45 for details.

4.47.2 Sending a Workbook as an Email Attachment

If you want to send the current workbook as an attachment to an Email, click Save and Send link in the Backstage view. Refer to Section 3.46 for details as it works exactly like in Word.

4.48 SAVING A WORKBOOK AS TEMPLATE



Sometimes you may need to create similar types of workbooks on regular basis. For instance, a company may need to create a monthly budget workbook every month. Similarly, one may need to prepare invoice or expense statements on regular basis. Instead of creating these files from scratch, you may use a template workbook that already contains the basic data, such as the company name, address, headings, logo, required formulas and formatting. In other words, you create the skeleton of the required file (say Invoice) in a template. Creating a template is as simple as creating a regular workbook file:

- Create a new workbook file and enter the required data and formulas in the usual way. Format the cells as per requirement.
- When the workbook is ready, click the **File** tab to open the Backstage view and click the **Save As** command to display the Save As dialog box. In this dialog box, choose *Excel Template* as the file type. (See Fig. 4.77.)
- Enter the desired template name in the *File Name* box and click the **Save** button to create the template file. While creating a template file, it is suggested to save it in the default folder.

4.48.1 Creating a Workbook Based on a Template

- To create a new workbook based on your template, click **New** in the Backstage view, choose your template and click **Create**. Refer to Section 4.6 for details.

4.49 CHANGING EXCEL OPTIONS



The Excel program is very flexible. You may control the appearance of the workbook and the working of the program through the Excel Options dialog box shown in Fig. 4.80, which you can display by clicking Options in the Backstage View. Figure 4.80 displays the General page of the Options dialog

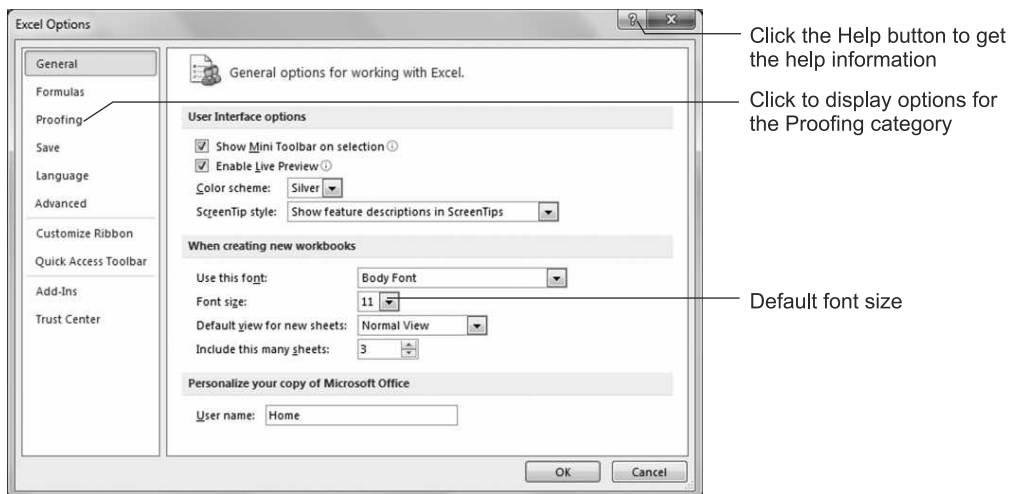


Fig. 4.80 Excel Options dialog box

box. This page is used to control the general options, including the standard or default font name and size. The various options that you can control through the Options dialog box are grouped in various categories, such as Formulas, Proofing, Save, Language, etc., listed in the left pane of the dialog box. You may click any category link to display the corresponding options. You may go through these categories to learn more about the options you can change. For help, click the **Help** button on the Title bar of the Options dialog box or press **F1**.

MICROSOFT ACCESS

In this chapter, we will discuss the following topics:

- ◆ *Microsoft Access*
- ◆ *Starting Access*
- ◆ *Creating a Database*
- ◆ *Table*
- ◆ *Creating a Table in Datasheet and Design View, Field Types, Primary Key, and Field Properties*
- ◆ *Using Lookup Wizard*
- ◆ *Opening an Existing Database*
- ◆ *Opening and Editing Data in a Table: Navigating Records, Insert and Delete Records, Rename, Resize, Reposition, Freeze and Unfreeze Fields*
- ◆ *Relationship between Tables and Viewing Related Information*
- ◆ *Query: Creating a Query using a Wizard and Design View, Sorting Query Output, Using Criteria, Saving and Modifying a Query*
- ◆ *Form: Using Form Tool, Wizard and Design View to Create a Form*
- ◆ *Report: Using Report Tool and Wizard to Create a Report*
- ◆ *Exporting Data from an Access Object*
- ◆ *Importing and Linking External Data*
- ◆ *Using a Table/Query as Mail Merge Data Source*
- ◆ *Finding and Replacing Data in a Table*
- ◆ *Spelling Checking*
- ◆ *Formatting Datasheet*
- ◆ *Programming in Access*
- ◆ *Using Analyze Tools*
- ◆ *Database Security*
- ◆ *Backup a Database*



5.1 MICROSOFT ACCESS

Microsoft Access is an easy to use program developed by Microsoft Corporation to maintain and use *relational databases*. Microsoft Access is a *Relational Database Management System (RDBMS)* program similar to Oracle, MySQL, Visual FoxPro and Microsoft SQL Server, though on a smaller scale. Access may not be as powerful as other RDBMS programs; however, its easy to use graphical user-interface (GUI) makes it popular on PCs.

Do not get confused by the terms database, relational database and RDBMS. Basically, a database is an organized collection of related information. In other words, a database provides a unified approach to store all kinds of information. For instance, with reference to a wholesale store, a database may store all information (usually called data) regarding suppliers, products, purchase orders, customers, invoices, payments, receipts, etc. As the data is stored in a *linked or related* manner (hence the name Relational Database Management System), extracting the required information from a database is very easy. For instance, one can easily *query* the list of suppliers from a particular city who were sent 10 or more orders last year, each order having a value between ₹5,00,000 and ₹6,00,000. Access can display this information on the screen in the form of a simple list or nicely formatted report. Access can also help you add and edit data in the database through easy-to-use *forms*, which may even prevent users from entering invalid data.

The Access program was first released in 1992. Microsoft updated the Access program on a regular basis. Access 97, Access 2000, Access 2002 (XP), Access 2003, Access 2007 and Access 2010 are some of the common Access versions in use. Though, the newer versions have some new features and capabilities, the basic features and capabilities of program are the same in all versions. In this book, we shall discuss Access 2010 running on Windows 7. If you use some other version of Access or Windows, the screen displays that you get may differ slightly from those shown in the book, particularly if you use version 2003 or earlier as Access has replaced the menu interface with the *Ribbon* interface since Access 2007.

5.1.1 Starting Access

Depending on how your PC is setup, you can start Access in several ways:

- If there is an Icon for Access on your desktop, double click that icon to start Access. The Access icon normally looks like



- If the Access icon is available on the taskbar or Quick Launch toolbar on the taskbar, you can start Access by clicking that icon.
- You may also start Access from the Windows menu like any other program. The Access program may be located in the Start menu or anywhere in the menu system; however, normally you will find it in the Programs/All Programs submenu, Microsoft Office or Microsoft Applications. On Windows 7, click the **Start** button on the taskbar, click **All Program** and Windows displays the list of programs installed on your computer. Click the **Microsoft Office** folder in the programs list and click **Microsoft Access 2010**, as illustrated in Fig. 5.1 to start Access.

The Microsoft Access window appears on your screen. Unlike other Office programs, such as Word and Excel, Access opens in the Backstage view, as shown in Fig. 5.2. The Backstage view provides a convenient place to create a new database, open an existing database as well as display useful information about the current database.

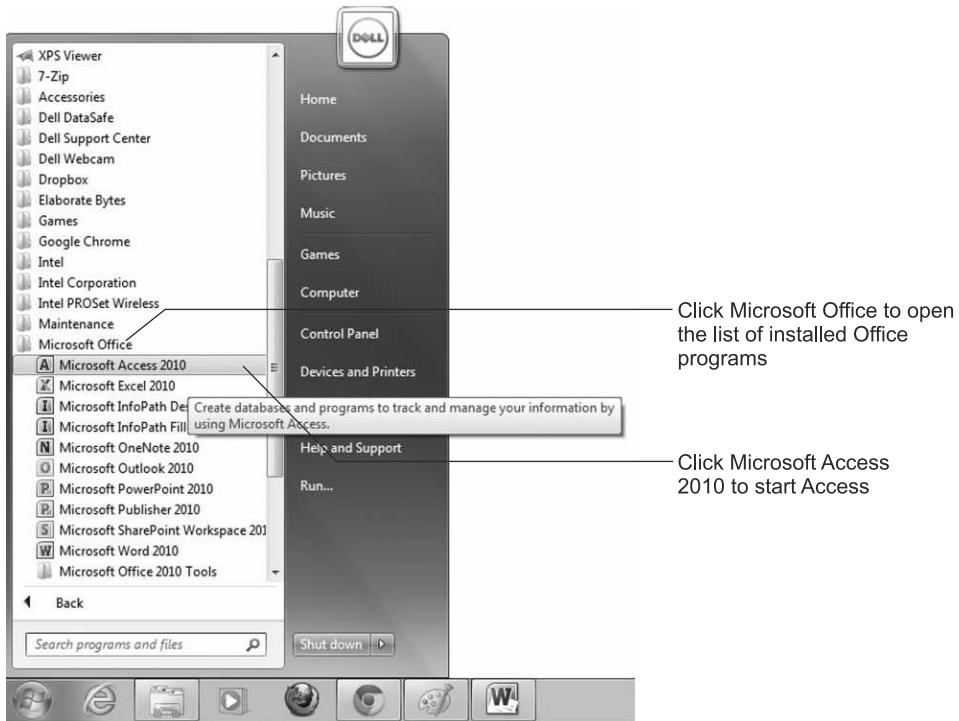


Fig. 5.1 Starting Microsoft Access

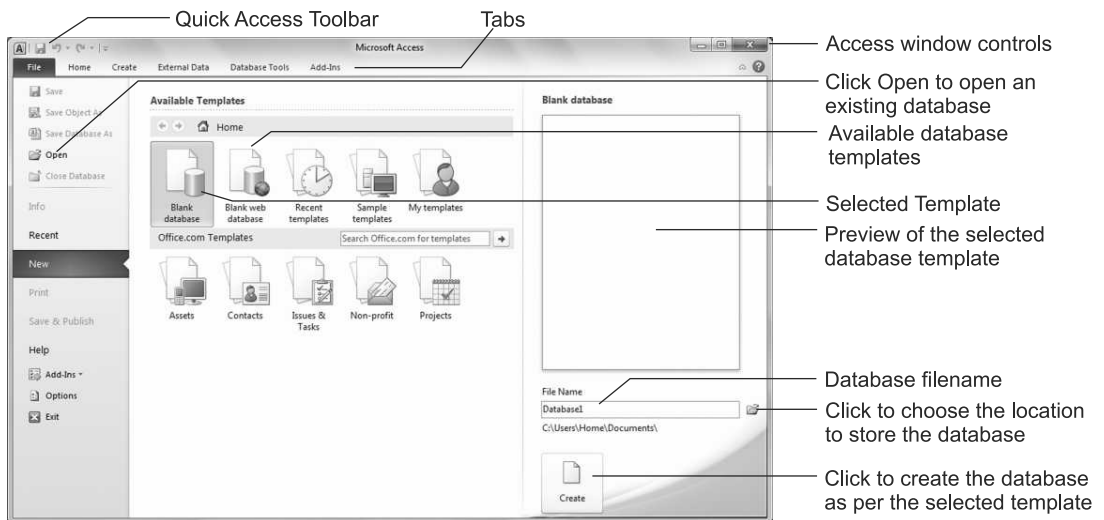


Fig. 5.2 Access Backstage view

The Access window looks quite similar to a typical Microsoft Office application. On the extreme top left is the *Quick Access* toolbar that contains controls for common commands, such as Save, Undo and Redo. Of course, you can customize the Quick Access toolbar as well as the Ribbon, which is currently hidden. Refer to Section 3.49 to learn how to customize the Quick Access toolbar or the Ribbon. The *title bar* displays the name of the program in the middle and the window control buttons on the right. When a database is open, Access also displays its name in the title bar.

When Access starts, it selects the New command by default. Like other Microsoft Office programs, the Navigation bar on the left side of the window contains familiar commands, such as Save, Save As, Close, Recent, Print, Help, Options and Exit.

5.2 CREATING A DATABASE



You can click New in the Navigation bar in the Backstage view to create a new database. In Access, a new database is always based on a template. The *template* is a special Access file that creates a complete database. While the Blank Database template, as the name implies, only creates a blank database, other templates may create tables, relationships, forms, reports and other objects besides creating a new database. Each template is designed for specific needs, e.g., sales, events, tasks, budget, etc. If a template meets your requirements, you may use it to speed up the database design. The *Available Templates* box displayed in the middle shows the templates installed on your computer and available for use. For additional templates, you may search at **Office.com**, Microsoft's online resources and download these to your computer. Let us create a new database based on the Blank Database template.

- Ensure that **Blank database** is selected in the Backstage view.
- As shown in Fig. 5.2, Access assigns a default name, such as Database1 and a default folder to store the new database. You should assign a meaningful name to your database. Similarly, you may choose a different location to store the database by clicking the Folder icon, which opens the File New Database dialog box shown in Fig. 5.3.

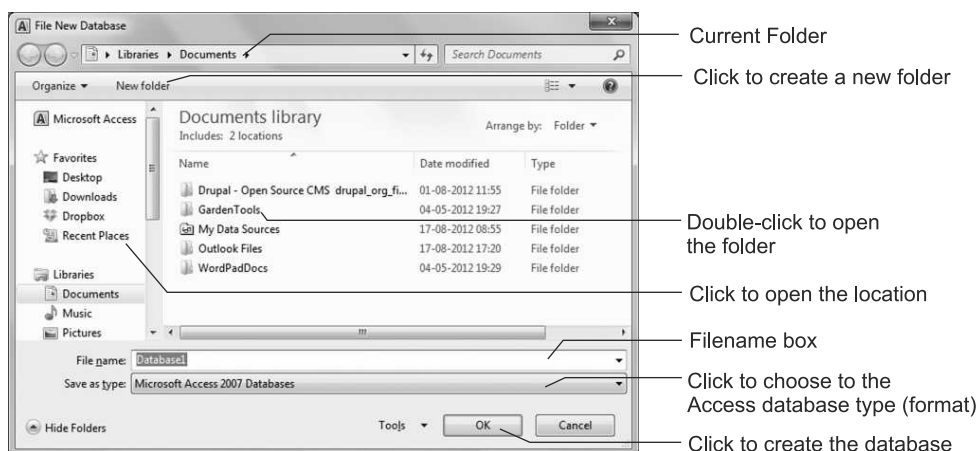


Fig. 5.3 Choose filename and folder for creating a new database

The File New Database dialog box enables you to assign a name to your database and choose a location (folder) to store it. You type the name for your database in the *File Name* box. To open any folder, whose icon is displayed in the left pane, click it. Similarly, to store the database in the subfolder of the currently selected location, e.g., GardenTools, double click the corresponding icon.

- By default, Access 2010 creates the database in Microsoft Access 2007 format which is good for Access 2010 and Access 2007. If you plan to use the database with Access 2000/2002/2003, click **Save as type** and choose the corresponding format. Click **OK** to close File New Database dialog box and return back to the Backstage view.

Note Access uses “accdb” file extension name for 2007 format databases and “mdb” for 2000/2002-2003 format. Do not change the file extension name.

- Click the **Create** button.

Access creates the database and switches to the Fields tab as shown in Fig. 5.4. Notice that it displays the database name and format (Access 2007) in the title bar. It has created an empty table Table 1 and is displaying *Table Tools* in the Ribbon which can help you to design the table for your database.

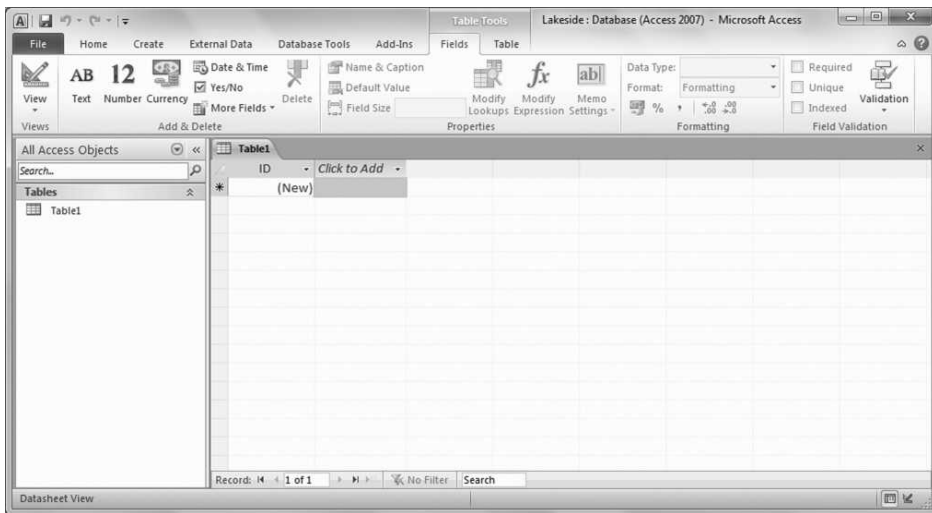


Fig. 5.4 Access displaying a blank database

Note When you create a database based on a template other than Blank Database, usually you would see one or more tables and other objects in the Navigation pane on the left.

5.3 WHAT IS A TABLE?



A *table* is the basic building block of an Access database. All the data you want to maintain in a database is stored in tables. Depending on the complexity of the database application you want to maintain, a database may contain several tables. Each table holds one type of data. For instance, in a typical Stores database, the Customers table is used to enter the list of customers, and the Employees

table to store details about employees. We cannot store employees in the Customers table or customers in the Employees table. Similarly, we cannot store the invoice data in the Salary table, and vice versa. This keeps the data well organized and easy to use. Though the data is divided among separate tables, the data stored in various table is linked. This helps in better organization of data in the database. We shall discuss how linked tables work later.

The organization of data in a table looks similar to the row-column setup in an Excel spreadsheet. (See Fig. 5.5.) However, in a table, rows are called *records* and columns are called *fields*. A record is one set of data, e.g., student details (name, date of birth, address, etc.) for a student constitute a record. To better organize and manage the information in a record, it is divided into various units called *fields*. Each field stores one type of information. For example, to store first name, last name, date of birth, email, address, city, state, PIN, etc., for a student table, we use separate fields to store each piece of data. In other words, each field of table is used to store a distinct unit of data. Unlike cells in a spreadsheet, the number of fields in a table is predefined and we can restrict the type and amount of data that can be entered in various fields. Basically, to organize data in records of a table, it is divided into various fields.

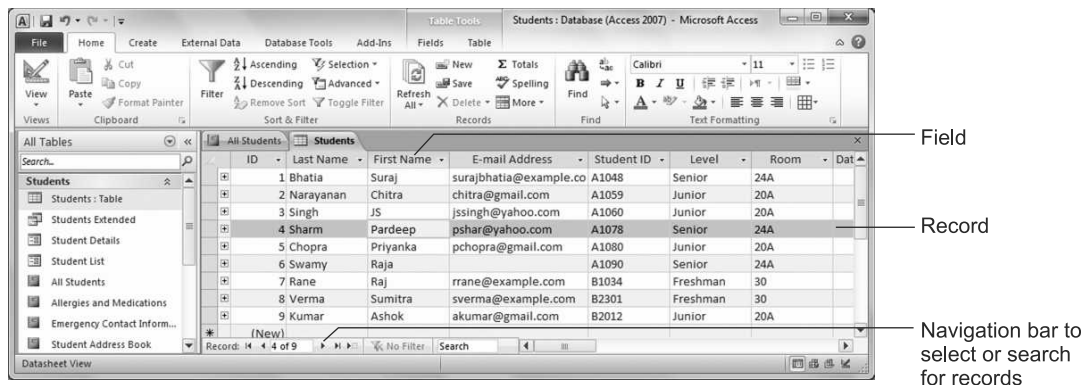


Fig. 5.5 Access displaying a table with few records


5.4 CREATING A NEW TABLE IN A DATABASE



The Tables group on the Create tab contains two tools to create a new table in the current database, which are Table and Table Design. The *Table* tool creates a table in the Datasheet view whereas *Table Design* creates the table in Design view. While you can create table with either tool, the Table Design tool gives you more control on the *table structure*. Even if you create the table in the Datasheet view, you can later modify it in the Design view. We would first describe creating a table in the Datasheet view.

5.4.1 Creating a Table in the Datasheet View

The Datasheet view lets you create a table by simply choosing the field types and defining field names in a datasheet that resembles an Excel worksheet.

- Click the **Create** Tab and then click  in the Tables group.

Access creates a new table, assigns it a name such as Table 1 and displays in the Datasheet view, as shown in Fig. 5.6.



Fig. 5.6 *A table being designed in the Datasheet view*

The left pane in the Access window is called the *Navigation* pane, which contains list of all objects in the database. Besides the table objects, an Access database can also have reports, queries, forms, code and macro objects. If required, you can collapse the Navigation pane, as illustrated in Fig. 5.6.

When Access creates a table with the Table tool, it automatically adds an ID field. Let us add another field to the table.

- Click **Click to Add**, as illustrated in Fig. 5.6 to choose the data type for the field. Access displays a list of supported field types in a drop-down list shown in Fig. 5.7.

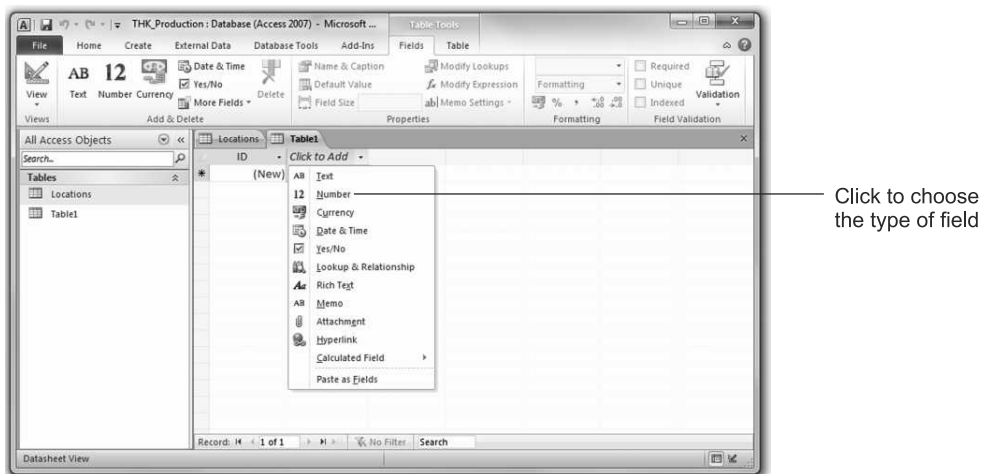


Fig. 5.7 *Selecting the field type*

You already know that a record is divided into different fields to store different types of data. Moreover, the data you store in different fields may also be of different types, e.g., text for names, numeric for salary and date for date of birth. Access supports several field data types as displayed in the drop-down list shown in Fig. 5.7. The various field types are described in detail in Table 5.1.

Table 5.1 *List of Access data types*

FIELD TYPE	DESCRIPTION
Text	Can include any printable character including numbers and symbols. Use for data that does not require calculations. Can include data up to 255 characters.
Memo	Use for long textual details, e.g., product specifications, book abstract, technical paper, letter, memorandum, etc. The Memo field can hold data up to 63,999 characters in length.
Number	Stores any kind of numeric data that may be used in calculations.
Date/Time	Store a date/time value. Suitable to store the date, time or date and time value.
Currency	A special kind of more precise numeric data type that makes it suitable to store currency data.
AutoNumber	As records are created in a table, AutoNumber automatically generates sequential numbers (incremented by 1). Generally used to create a <i>primary key</i> for the table.
Yes/No	Stores either Yes or No in the field. Suitable when the field can have only two values, e.g., true or false, pass or fail, yes or no, present or absent, and so on.
OLE Object	Can hold an object, e.g., a Microsoft Word document, Excel spreadsheet, sound or graphics file.
Hyperlink	Used to create a hyperlink to a document on Local Area Network (LAN) or a web page on the Internet.
Attachment	Any supported file type. For instance, you may use this field to attach a Word document or Excel workbook to this type of field.
Lookup Wizard	A special type of field used to create a dropdown combo box. Useful to let the user choose a value from the predefined list that may be typed manually or is available in another table. For instance, you may use Lookup Wizard to select Department name, payment type, name of state, etc., as this type of data has limited and predefined choices.
Calculated	This field, which is new in Access 2010 contains the result of calculation performed on other fields. For instance, it may be used to calculate the inventory value by multiplying the UnitCost with the Quantity field.

- Click to choose the appropriate field type in the field type list, and Access assigns a default field name such as *Field1* to the field, as shown in Fig. 5.8.

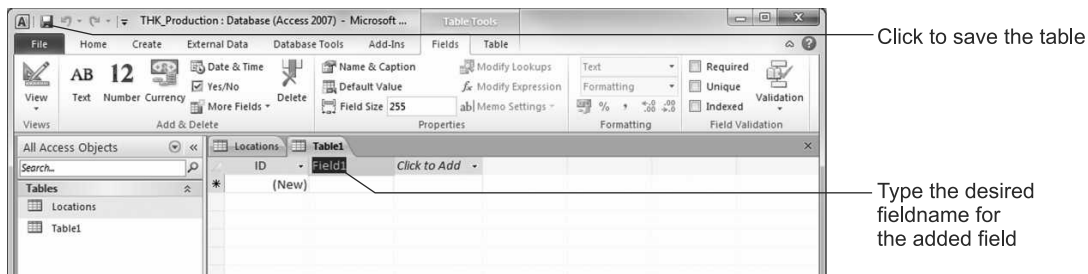



Fig. 5.8 *Typing fieldname for the added field*

- Type the desired name for the field, e.g., FirstName, First_name, Salary, etc.

Tip Access allows field names up to 64 characters long, however, avoid very long field names. Also, though Access allows the use of blank spaces in a field name, it is recommended to avoid this. However, the use of the underscore character (_) in field names is generally accepted.

- Notice that Access has added another “Click to Add” column to define the next field. Follow the same steps to define other fields for the table.


After you have defined all fields for your table, let us save the table.

- Click  on the Quick Access toolbar (see Fig. 5.8) to display the Save As dialog box.
- Type the desired table name in the Save As dialog box and click **OK**.

Access saves the table and the table name appears in the Navigation pane in the Tables section.

5.4.2 Creating a Table in the Design View

The Design view table creation process gives you more control to define the table structure. Besides the field name and type, you can also define field properties, as you would see soon. Let us create a table in the Design view.

- Click the **Create** Tab and then click  in the Tables group.

Access switches to the Design view, creates a new empty table and displays it in the Access window, as shown in Fig. 5.9. Notice that Access is also displaying Table Tools on the Design tab, which you would find helpful in the table design process.

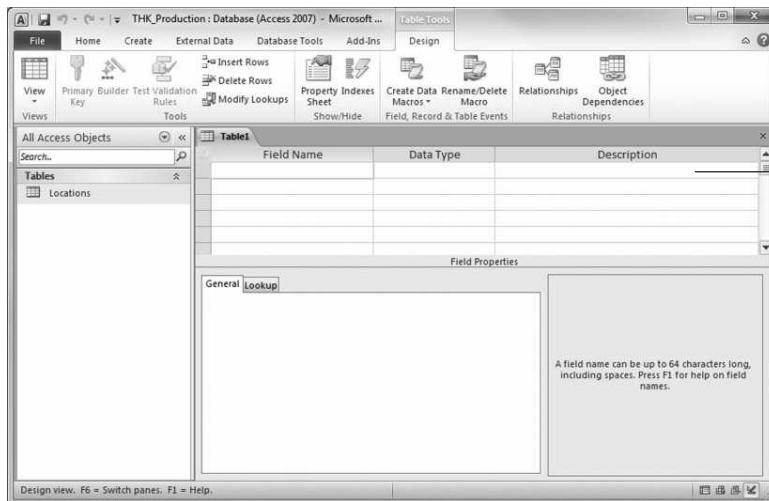


Fig. 5.9 A table being designed in the Design view

The right pane in the design view has two sections. The upper section is used to define the field name, data (field) type and an optional description for the field. A separate row is used to define each field. The lower section is used to define additional field properties, such as length, format, caption, etc., for each field. Most of the field properties are optional.

When you want to design a table, you already know the kind of data you want to store in the table and how you want to divide the record into different fields. For each field, you need to assign a field name, e.g., the field to store an employee name may be called EmployeeName, EmplName or Employee_Name.

- Type the field name, press **Tab** to move to the next column (Data Type), where you define the type of data you want to assign to the field.
- The default data type, also known as field type is *Text*, which allows all printable characters to be stored in the field. To change the data type, click the drop-down arrow on the right side of the Data Type column, as illustrated in Fig. 5.10.

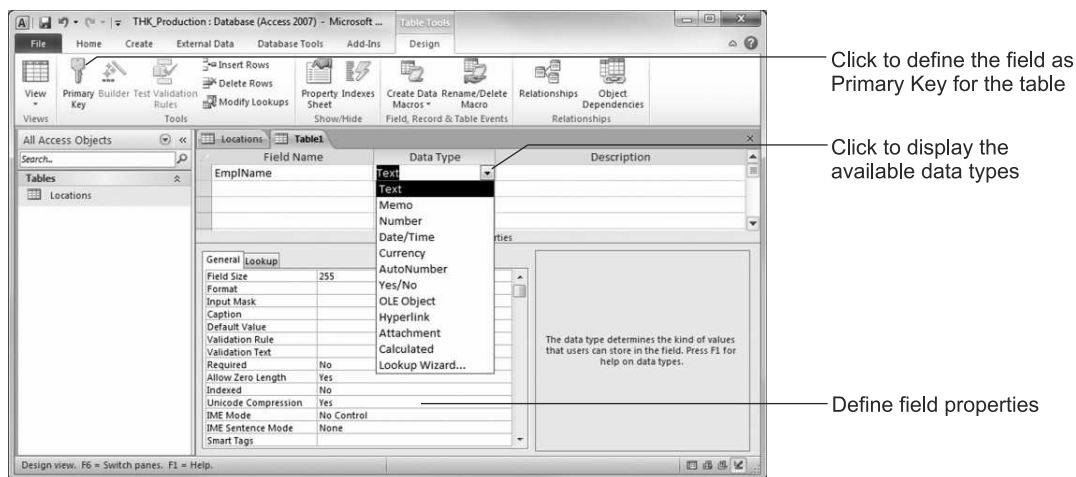


Fig. 5.10 Choosing Data Type for a field

You should choose a field type appropriate for the type of data you want to store in that field. Usually, selecting the data type for a field is straight forward based on common sense. For instance, for storing numeric data that may be used in calculations, use the Number data type. You find some data, e.g., phone number, an invoice, bill number, etc., that looks numeric but you never perform any numeric calculation on this data. In that case, it is recommended to use Text data type to store this kind of data in Access tables.

5.4.3 Field Size for Number Data Type

The numeric data you want to enter in a table can be of different size, with or without decimal digits. While a small number requires only one byte of storage space in the table, a large number may require as much as 16 bytes. To prevent your tables from growing too large when you add records, it is recommended to choose the field size based on the type of data to be stored in a numeric field. To store integers (numbers without decimal part), here are the choices:

Byte	Stores number from 0 to 255.
Integer	Stores numbers from -32,768 to 32,767.
Long Integer	Stores numbers from -2,147,483,648 to 2,147,483,647. This is the default Field Size setting for the Number Data type.

To store numbers that have decimal part, use any of the following choices:

Single	7 digits of decimal precision.
Double	15 digits of decimal precision.
Decimal	28 digits of decimal precision.

Primary Key As you know, an Access table may contain thousands or even millions of records. When you want to retrieve or update specific data from the table, it is very important that Access is able to distinguish one record from another. To accomplish this, the *primary key* plays an important role, as it *uniquely* identifies each record in the table. Assume that you visit the Income Tax Department to enquire about the Income Tax return of Raj Sharma. However, the Income Tax Department may have hundreds of Raj Sharma in its files. To distinguish one Raj Sharma from the other, Income Tax Department assigns a unique Permanent Account Number (PAN) to each person on its files. The primary key plays the same role in an Access table to uniquely identify each record in a table. You may designate any field in the table as a primary key if each record in the table contains a unique value in that field. For example, in the products table, the product code field may act as the primary key for the table. However, if there is no such field in the table, use an *AutoNumber* field.

- To designate a field as the primary key while designing a table, click the mouse on that field in the Table Design window and click **Primary Key** on the Design tab (see Fig. 5.10) or choose the *Primary Key* command from the right-click menu.

Note When you create a new table that does not have a primary key, Access displays a suitable message and prompts if it should add a primary key for the table. If you choose yes, it automatically adds an AutoNumber field with the field name ID as a primary key.

Defining Field Properties For each field you define for table, you may assign optional field properties, which are defined in the lower part of the Table Design window, as illustrated in Fig. 5.10. We have already discussed, Field Size, one such property. Here is brief description of other common field properties, all of which are optional.

1. **Caption:** The *Caption* is used to provide a little detailed description for the field, e.g., for the FirstName field, you may use “First Name of Employee” as the caption. If a caption is defined for a field, Access uses the caption in place of the field name when you view the table contents or create a report or form.
2. **Default Value:** As the name *Default Value*, suggests, it is the value that is automatically filled in the field when a new record is added to the table. For example, you may define “Cash” as the Default Value for the PaymentType field. Similarly, for the OrderDate field, you may define the current date as the default value by using the Access DATE() function. You may type the default value in the text box against *Default Value* in the Field Properties box. To define an advanced default value for the field, click the Expression Builder button to open the Expression Builder dialog box. The Expression Builder dialog box helps you to choose the required Access functions and join these with AND, OR, NOT, LIKE and other mathematical operators.
3. **Validation Rule:** The Validation Rule allows the data to be entered in a field only when it satisfies the specified rule. For example, for an Age field, you may specify a validation rule “>= 18” that will not allow a value less than 18 in the field. Similarly, the validation rule “>=18 AND <=65” will only allow values between 18 and 65. You may enter the rule in the text box against *Validation Rule* or take the help of the Expression Builder dialog box.

4. **Validation Text:** If you use *Validation Rule*, you may also use *Validation Text* to specify a message that Access displays when the user enters a value outside the validation rule. If the validation text is not specified, Access displays a generic validation text message.
 5. **Required:** The default value for *Required* is No. If you define the *Required* property for a field to “Yes”, the user cannot leave that value empty and must enter some data in that field.
 6. **Format:** Allows to control the display layout of the field. For certain types of fields, such as Date/Time, Numeric, Currency and Yes/No, Access provides a few predefined formats to choose from. Of course, you can define your own custom format. For instance, the > symbol makes all text in a field appear in uppercase, and the < symbol makes all text appear in lowercase, regardless of how the text was entered. Similarly, the format &&&-&&&-&&& causes the text 123456789 appear as 123-456-780.
 7. **Input Mask:** Input Mask enables to control the data that can be entered in different character positions of the field. For instance, if a company uses two characters followed by 5 numeric digits (e.g., PQ12012, SL24010, etc.) for the product code, the Input Mask can help you implement this, so that the user can enter only alphabetic characters in the first two character positions and numeric in the next five.
 8. **Allow Zero Length:** Applicable only for Text, Memo and Hyperlink fields. Controls where zero length string data is allowed in the field. By default, zero length data is allowed in fields.
 9. **Indexed:** Controls creation of an *index* on the field. The default *Indexed* option for each field is No. On clicking the drop-down arrow on the right side of the Index box, Access displays three options –No, Yes (Duplicates OK) and Yes (No Duplicates). Indexing also helps Access to speedup sorting, which is discussed later.
- While you are defining the table structure, you can add a new field or delete a field with ease. To do so, click the row where you want to add/delete the field and then use the corresponding button on the Ribbon or choose the required command from the right-click menu, as illustrated in Fig. 5.11.

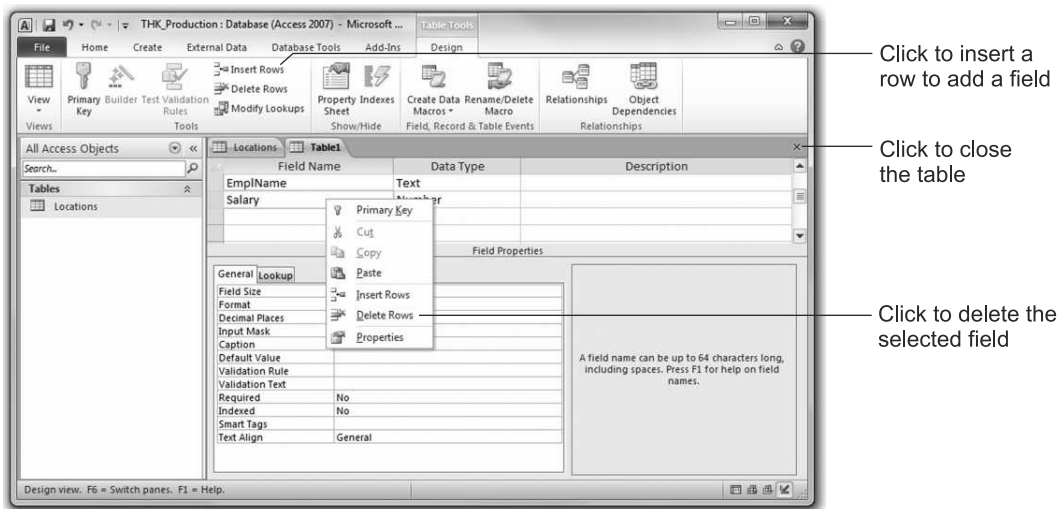

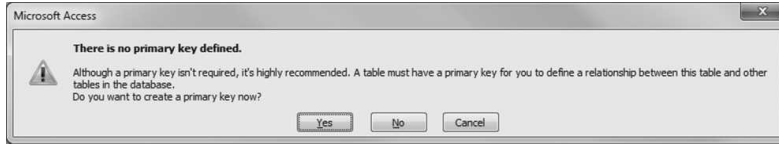


Fig. 5.11 Inserting or deleting a field

After you have defined all fields for your table, follow the steps given below to save the table:

- Press **Ctrl+S** or click  on the Quick Access toolbar to display the Save As dialog box.
- Type the desired table name in the Save As dialog box and click **OK**. If you did not define a primary key for the table, Access displays the following message:



- As recommended by Access, each table should have a primary key. You may click **Yes** to create an ID field with field type AutoNumber as the primary key for your table. Click **No** if you do not want to create the primary key.
- Access saves the table and the table name appears in the Navigation pane in the Tables box. Access does not close the Design view. To close the table, click **X**, the close button, as illustrated in Fig. 5.11

5.5 USING LOOKUP WIZARD



In some situations, it is helpful to offer predefined choices for a field rather than typing data in a field. For instance, if a company has only four departments, Access can provide these four choices in a drop-down list for selection at the time of data entry in that field. This scheme will also work when entering payment types, name of state or country in a field.

- To allow the user to pick a value from a drop-down list, click the table name in the Navigation pane and put the table in the design view by clicking **Design View** on the Status bar. Then click the required field and choose *Lookup Wizard* as the Data Type for the field while defining the table structure. (See Fig. 5.10.)

Access displays the Lookup Wizard dialog box shown in Fig. 5.12. As explained in the dialog box, you can type the values for the field or get it from another table or query. Let us create the lookup values by typing.

- Click the second option and then click **Next**. Lookup Wizard displays a grid to enter values. Press **Tab** and type the first value. In the same way, enter additional values. Figure 5.13 displays a few values entered in Lookup Wizard.



Fig. 5.12 The Lookup Wizard dialog box



Fig. 5.13 Values entered in Lookup Wizard

- Click **Finish** to close Lookup Wizard. Next, click **Save** on the Quick Access toolbar to save the table structure.
- Switch to the Datasheet view by clicking Datasheet View on the Status bar. Now when you click in the Department field in any row, Access displays a drop-down arrow. On clicking this arrow, it displays the available choices to choose from, as shown in Fig. 5.14.

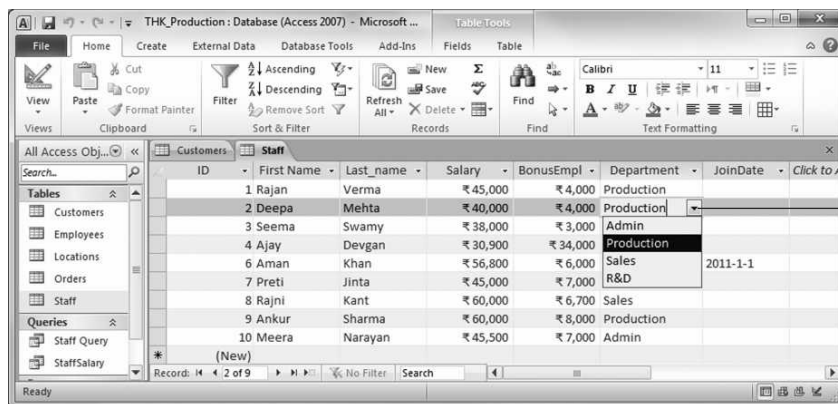


Fig. 5.14 Selecting the value for the Department field from lookup options

5.6 OPENING AN EXISTING DATABASE



Access can help you to open an existing database with ease.

- To open a database that you have worked on recently, click the **File** tab to open the Backstage view and click **Recent** in the left pane.

Access displays a list of recent databases in the middle pane shown in Fig. 5.15. If the database you want to open is listed in the Recent Databases box, you may click to open it. Access also displays the list of recent databases below *Close Databases* in the left pane if the “Quickly access this number of Recent Databases” checkbox in the middle pane is checked.

- If the database you want to open is listed in the Backstage view, click to open it, otherwise, click **Open** to display the Open dialog box shown in Fig. 5.16.

The filenames displayed in the list box are only from the selected folder. To display database files available in other folders, you need to open the desired folder. To open any folder that is displayed in the Open dialog box, double click it. Similarly, to display files from a location/folder whose icon is displayed in the left pane, click it.

- To open any database whose filename is displayed in the Open dialog box, double click the filename or type the filename in the File Name box and click the **Open** button.

5.6.1 Closing a Database

- To close an open database, click the **File** tab to open the Backstage view and click **Close Database** in the left pane.

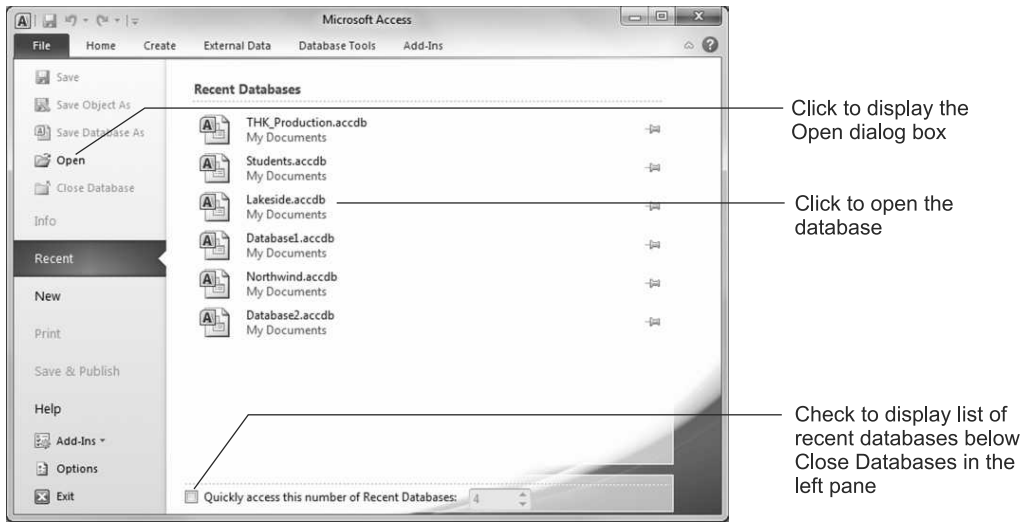


Fig. 5.15 Opening a database in Backstage view

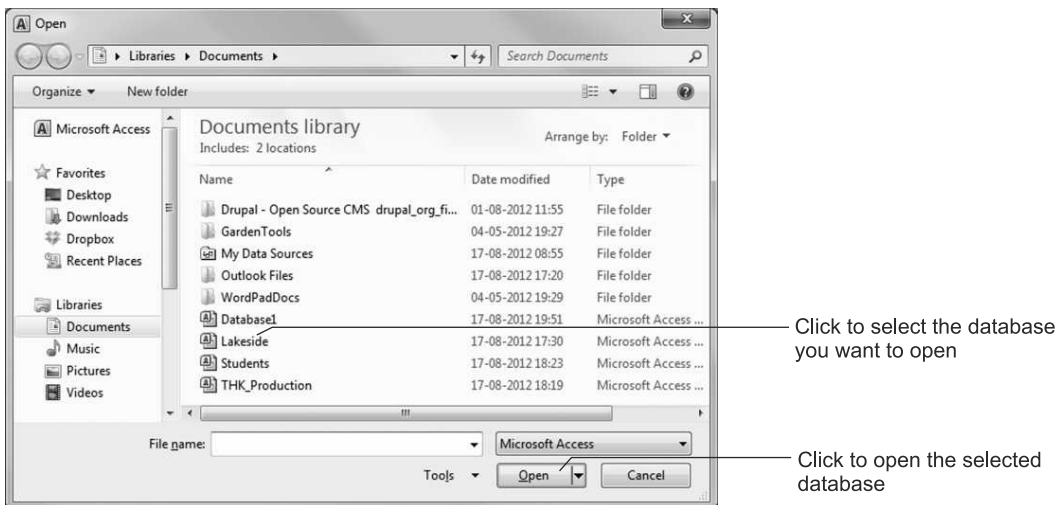


Fig. 5.16 Opening an existing Access database

5.7 OPENING A TABLE



If you want to view data contained in a table or add/edit data in the table, you need to open it.

- To open a table, double click the table name in the Navigation pane, as illustrated in Fig. 5.17. Alternatively, right click the table name to display the context menu and click **Open**.

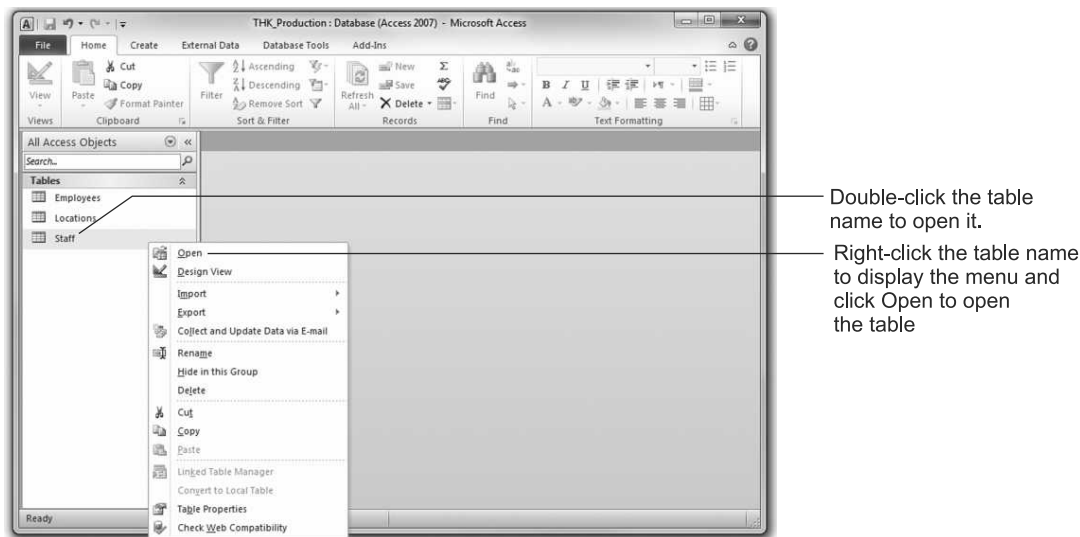


Fig. 5.17 Opening a table

Access opens the table in the Datasheet view as shown in Fig. 5.18.

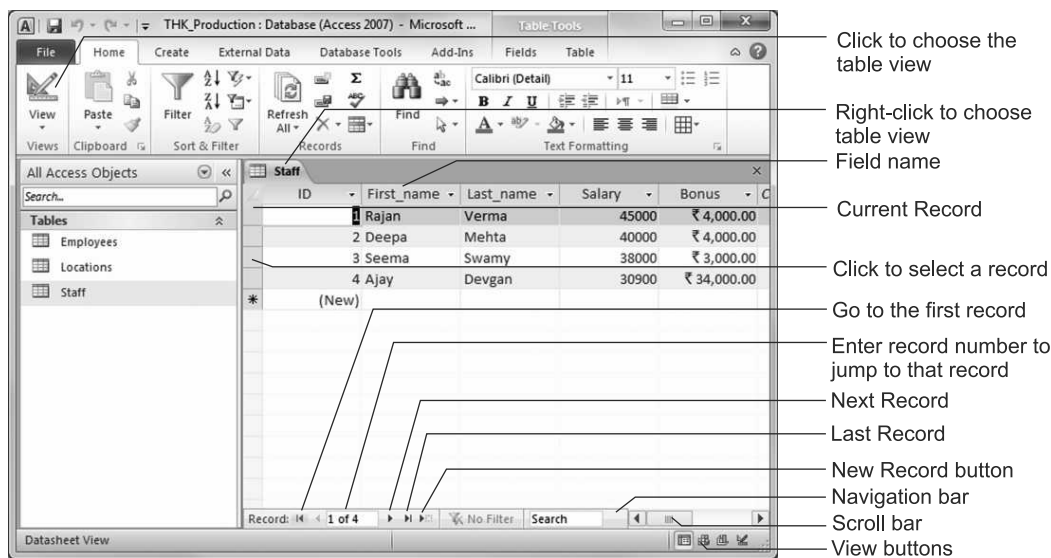


Fig. 5.18 A table open in Datasheet window

5.7.1 Changing the Table View

An Access table can be viewed in several views, the most common being the Datasheet view and Design view that you have already used. The other two views are *PivotTable* and *PivotChart* views. When a table is open, to switch to a different view, choose the desired view from the View button on

the Home tab, as illustrated in Fig. 5.18. If you right click the tab that displays the table name (see Fig. 5.18), Access displays a shortcut menu that also contains command to change the view. Besides, the Status bar also displays shortcuts to change the table view. As you know, the Datasheet view is used to enter data in a table and the Design View is used change the structure of table. The PivotTable and PivotChart views are used by advanced users to analyze data in a table. These views do not allow to edit or add data in the table, but to view the data in another way. The PivotTable and PivotChart views help us to analyze data available in a table and to display it in a format similar to a *crosstab* query.

5.7.2 Editing Data in a Table

The Datasheet window displays the contents (records) of a table in a row-column format that looks similar to an Excel spreadsheet. To edit data:

- Move the cursor in any field (column) of any record. You may also use arrow keys to move the cursor. Now you can edit text in the usual way.
- After making changes to the data, as you move to another record, Access automatically saves changes. If you want to undo the change to a record, click the **Undo** button on the Quick Access toolbar or press **Ctrl+Z**.

Caution Access can undo only the last action. For instance, if you edit record numbers 5, 10 and 12, Access allows to undo editing done in only record 12, and if required, you will need to manually edit records 5 and 10 to undo changes.

5.7.3 Navigating Records

- To select a record, click in the row border as illustrated in Fig. 5.18.

While you can use the mouse or keyboard to move the record pointer on the desired record, Access provides a convenient Navigation bar to do the same, which is particularly helpful when the table has a lot of records. As shown in Fig. 5.18, the Navigation bar is located at the bottom of the Datasheet window.

- Use the First, previous, Next and Last buttons to quickly jump to the first, previous, next and last record of the table.
- In the center of the Navigation bar, there is a text box which displays the current record number and the total number of records; however, it may also be used to move to a desired record. To move to a record using the text box in the Navigation bar, enter the desired record number and press the **Enter** key. Notice that as you move to a new record in the Database window, Access highlights the corresponding record.

5.7.4 Inserting a New Record

If you scroll to the bottom of the records list in the Datasheet view, you would find an empty record at the bottom of the list. You would also find an asterisk (*) in the Record Selector box on the left side of this empty record. This is the place to enter a new record in the table. As you enter data for a new record, Access automatically adds another blank record at the bottom of the table. Another way to quickly jump to the bottom of the table to enter a new record is by clicking the **New Record** button on the Navigation bar. The New record button is also available on the Ribbon in the Records group on the Home tab, as illustrated in Fig. 5.19. After inserting a new record, you can enter data in the record in the usual way.

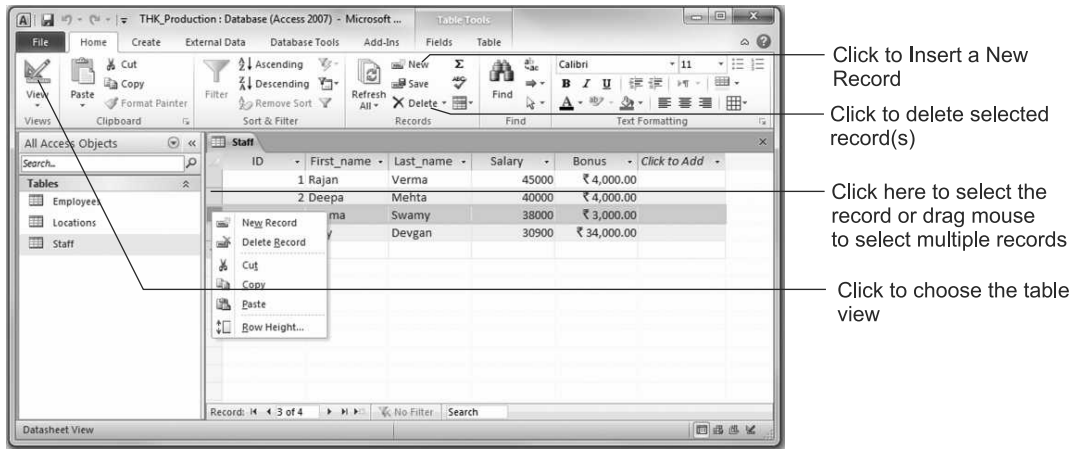


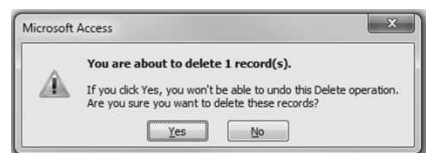
Fig. 5.19 Inserting and deleting records in a table

- If Access displays “(New)” in a field, you cannot enter data in this field, as this is an AutoNumber field which will be filled automatically by Access. Press **Tab** to move to the next field.
- After typing data in a field, press **Tab** to move the cursor to the next field or use **Shift+Tab** to move to the previous field. Alternatively, click the mouse in the desired field.

5.7.5 Deleting Record(s)

When you do not need a record in the table, you may delete it. For example, in an Employee table, if an employee has left the company, you may delete that employee’s record. To delete a record from the table:

- Select the record using the arrow keys or the Navigation bar. Another way to select a record is by clicking the Record Selector button located on the left side of the record, as illustrated in Fig. 5.19.
- Press the **Delete** key or click the **Delete** button on the Records group on the Home tab. The Delete Record command is also available in the context menu that you may get by right clicking the selected record. When you attempt to delete a record, Access displays a warning message as given here.
- As mentioned in the warning message, deleted records cannot be recovered, therefore, click **Yes** only when you absolutely sure that you want to proceed with the delete operation.



Besides deleting a single record, you can also delete multiple records in one stroke. To do so,

- Drag the mouse on the record selector bar (see Fig. 5.19) and Access selects and highlights the records.
- Press the **Delete** key or click the **Delete** button on the Ribbon to delete the selected records.

5.7.6 Resizing and Repositioning Fields

- If you have several field in your table, Access may not be able to display all fields in the Datasheet window. In that case, it displays a horizontal scrollbar in the bottom frame of the window (See Fig. 5.18). You may use the scrollbar to view fields currently not visible.

- To view more fields in the Datasheet window, you may reduce the size of a field by dragging the vertical bar between fields in the fields header, as shown in Fig. 5.20.
- If you want to change the order of fields, i.e., reposition a field, click the field name to select it. Now you may drag the selected field to a new position, as illustrated in Fig. 5.20.
- After making changes, when you close the Datasheet window by clicking the **Close** button (see Fig. 5.20), Access asks if you want to make the changes permanent.

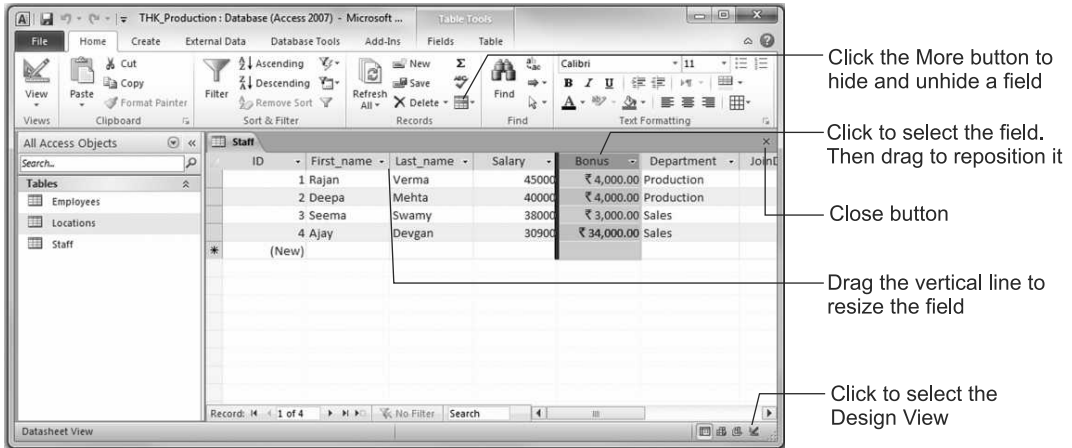


Fig. 5.20 Resizing and Repositioning Columns

5.7.7 Hiding and Unhiding a Field

Sometimes, you may wish to hide a field if it contains unimportant data. Hiding a field temporarily hides the data from the Datasheet view while keeping it safe in the table.

- To hide a field, click the mouse anywhere in that field, click the **More** button (see Fig. 5.20) to display a drop-down menu and then click the **Hide Fields** command.
- To get back hidden column, click the **More** button to display a drop-down menu and click **Unhide Fields**. Access displays the Unhide Columns dialog box.
- Click the field(s) you want to unhide. Finally, click **Close** to close the Unhide Columns dialog box.

5.7.8 Renaming a Field

To quickly change the field name of a field while viewing the table contents, double click the field name and type the new name. For additional changes to the table structure, switch the table to Design View.

5.7.9 Switching to the Design View

If you need to make major changes to a table that is open in the Datasheet view, you need to switch it to the Design view.

- To switch to the Design View, click the **Design View** button on the Status bar (See Fig. 5.20.) You may also switch to the Design View by clicking the **View** button on the Home tab and then clicking **Design View** on the drop-down menu.

The changes you can make to the table's structure include renaming fields, changing field size or data type, inserting/deleting fields and modifying field properties. However, you should be careful when you change field data types or size, as the table may lose data in the affected field. Access gives a suitable warning if it encounters any errors while converting data and gives you a chance to abandon changes.

- After making changes, if you want to switch back to the Datasheet view, click the **Datasheet View** button on the status bar or click the **View** button on the Ribbon and click the **Datasheet View** on the drop-down menu.



5.7.10 Freezing and Unfreezing Fields

When you edit data in a table or query (to be discussed) having several columns, Access may not be able to display all fields in the Datasheet window. To view or edit data in the fields on the right that are currently not visible, you may horizontally scroll data in the window. While this makes those field on the right visible, the fields on the left disappear. Sometimes this may cause a problem, when one or more fields on the left contain identification data, e.g., code or name. To ensure that you enter or view the data for the correct record, it is helpful if the identification fields are always visible on the left side of the window. To help you achieve this, Access allows to freeze one or more fields on the window.

- To freeze a field, select that field by clicking the field heading (see Fig. 5.20). Next, click the **More** button on the Ribbon to display a drop-down menu and click **Freeze Fields**. In the same way you can freeze additional fields.
- To unfreeze fields, click the **More** button to display a drop-down menu and click **Unfreeze All Fields**.

5.7.11 Sorting and Filtering Records

When you view records of a table in the Datasheet window, Access displays all records in the same order they were entered. However, when you have lots of records in a table, sorting these on one or more fields may often be required. You can sort the data in ascending or descending order of any field.

- To sort the table on a field, first click the field name in the column header to select that field. Figure 5.21 displays a table after a column has been selected. Now you may sort the table in ascending or descending order by clicking  **Ascending** or  **Descending**, respectively on the Sort & Filter group on the Ribbon, as illustrated in Fig. 5.21. Sort commands are also available on the menu displayed on clicking the down arrow on the right of the field name.

Sometimes a table may have thousands or even millions of records. To view a few selected records, you may apply a *filter* on the table. For instance, you may apply a filter on the Staff table shown in Fig. 5.21 to view records only for the Sales Department. Similarly, a filter on the Orders table can restrict the records to those orders with order value greater than a specific amount. Let us apply a filter on the Staff table shown in Fig. 5.21 to display records for the Sales and Admin departments.

- Click the **Department** field in the columns header and then click the **Filter** button on the Ribbon on the Home tab. Access displays a menu shown in Fig. 5.21.
- Click **“(Select All)”** to uncheck all fields. Next click **Admin** and **Sales** check boxes in the menu.
- Click **OK** and Access applies the filter as shown in Fig. 5.22. Notice that it displays the filter icon in the column header on the right of the Department field. It also displays “Filtered” in the Navigation bar.

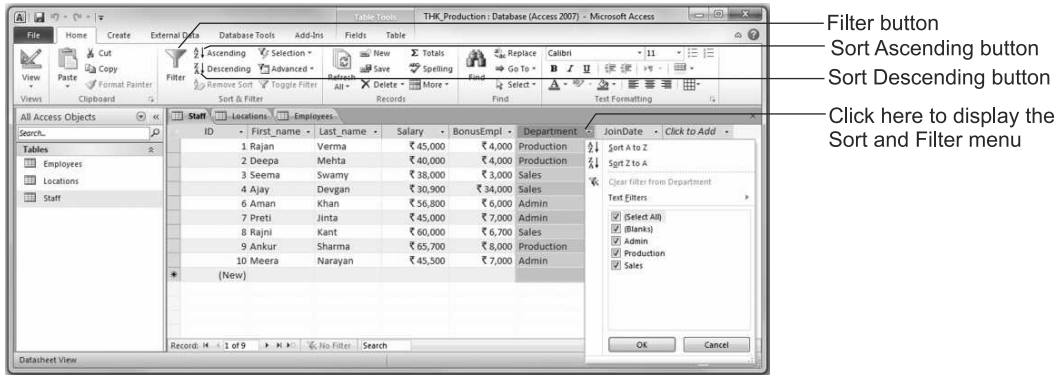


Fig. 5.21 *Sorting and Filtering Records*

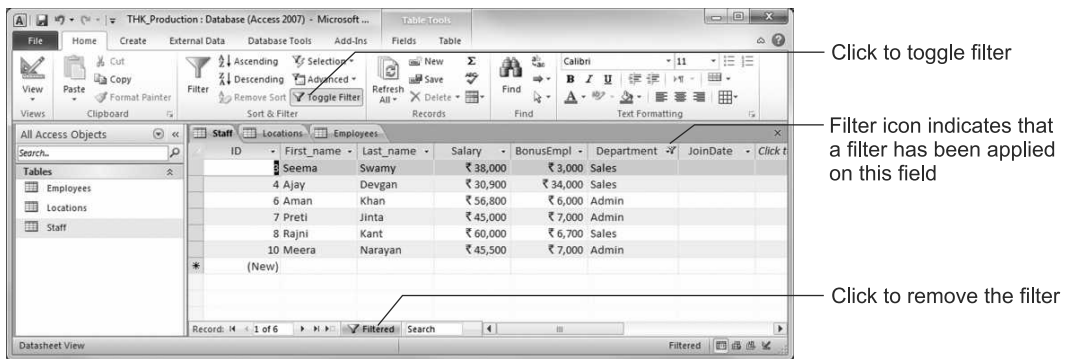
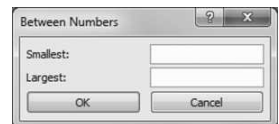


Fig. 5.22 *Filter applied on a table*

Sometimes, the filter you want to apply may not be as simple as selecting or not selecting some field values. For instance, you may like to display records with salary ≥ 40000 and salary ≤ 55000 . To accomplish this,

- Click the **Salary** field in the columns header and the click the **Filter** button to display the drop-down menu similar to that shown in Fig. 5.21.
- Click **Number Filters** in the menu and then click **Between** on the submenu. Access displays the Between Numbers dialog box shown here.
- Enter **40000** in the Smallest box, **50000** in the Largest box and click **OK** to apply the filter.



After applying a filter on one field, you can apply additional filter(s) on other field(s). For example, after applying the filter on the Salary field, you can apply a filter on the Department field.

5.7.12 Deleting a Field

- To delete a field while the table is open in the Datasheet view, right click the field name in the columns header to display a menu and click **Delete Field**.

- Access displays a warning message that all data in the field will be deleted permanently. On clicking **Yes**, Access deletes the field from the table. Remember that you cannot recover data from a deleted field.

5.8 UNDERSTANDING THE CONCEPT OF RELATIONSHIP BETWEEN TABLES



As you already know, in RDBMS (Relational Database Management System), data is kept in separate but linked tables. For example, a customer may place multiple orders. Now, while storing multiple orders placed by a customer in a table, instead of repeating the customer name, address, phone number, etc., in each order record, we divide the information in two tables:

1. **Customers table:** Contains customer name, address, phone number and a unique customer number or ID for each customer. The field that stores the unique customer number (normally called ID) is called the *primary key*. Refer to Section 5.4 to learn more about primary key and how to define it for a table.
2. **Orders table:** Order details and customer number for the customer who placed the order.

Consider the sample Customers and Orders tables shown in Fig. 5.23. Since the information is stored in separate tables, to get customer information for an order, we *link* or *relate* the two tables on the common customer ID field. We can link the Customers table into the Orders table or the Orders table into the Customers table. Since each order is placed only by one customer, the relation from Orders table into the Customers table is *one-to-one*. On the other hand, since one customer may place multiple orders, the relationship from the Customers into the Orders table is *one-to-many*. While creating a one-to-many relationship, the table on the *one* side (e.g., the Customers table in the customer-orders scenario) must have a primary key and that primary key is used to link the tables. The field in the Orders table that stores the customer ID is called *foreign key*. In other words, the customer ID value stored in the foreign key field of the Orders table is used to get details about the customer from the Customers table. Similarly, we can find orders for a specified CustomerID (e.g., A100) from the Orders table. Besides establishing relationships between tables, Access also allows you to relate queries.

CustomerID	CustomerName	CustomerAddress1	CustomerAc	CustomerCity	CustomerState	CustomerPhone
A100	Raj Computers	A100, Ring Road	Lajpat Nagar	New Delhi	Delhi	99234-678
A101	HNC Communicati	A234 M G Road	Vikas Puri	New Delhi	Delhi	96785-890
N201	Cutler Systems	878 Mathura Road		Faridabad	Haryana	98900-667
N210	ALF Hardware	220 Janpath		New Delhi	Delhi	99890-345

OrderID	CustomerID	OrderDate	OrderValue	ShipDate	EmplID	Click to Add
1	A100	18-08-2012	₹ 60,000.00	26-08-2012	100	
2	N201	08-08-2012	₹ 65,000.00	01-09-2012	100	
3	A100	24-08-2012	₹ 34,000.00	08-09-2012	230	
4	A101	23-08-2012	₹ 34,200.00	16-09-2012	230	
5	N201	23-08-2012	₹ 12,000.00	08-09-2012	100	
6	N210	09-08-2012	₹ 23,000.00	14-09-2012	101	
7	A100	02-08-2012	₹ 45,000.00	07-09-2012	100	


Fig. 5.23 Sample Customers and Orders Tables

Note You can assign any field name to the foreign key, though it is usually named the same as the primary key field for easy identification.



5.9 CREATING RELATIONSHIP BETWEEN TABLES

You can create relationship between two or more tables. After establishing a relation, Access can retrieve related information, e.g., in Customers-Orders relationship, you can find customer details for an order. To create a relationship:

- Click the **Database Tools** tab and then click  on the Relationship group.

Access displays the Show Table dialog box shown in Fig. 5.24. This dialog box is used to select tables and/or queries to be used to establish the relationship (Queries are discussed in Section 5.12). If the database already contains one or more relationships, it displays them in the window. In that case, click **Show Table** in the Relationships group on the Ribbon to display the Show Table dialog box.

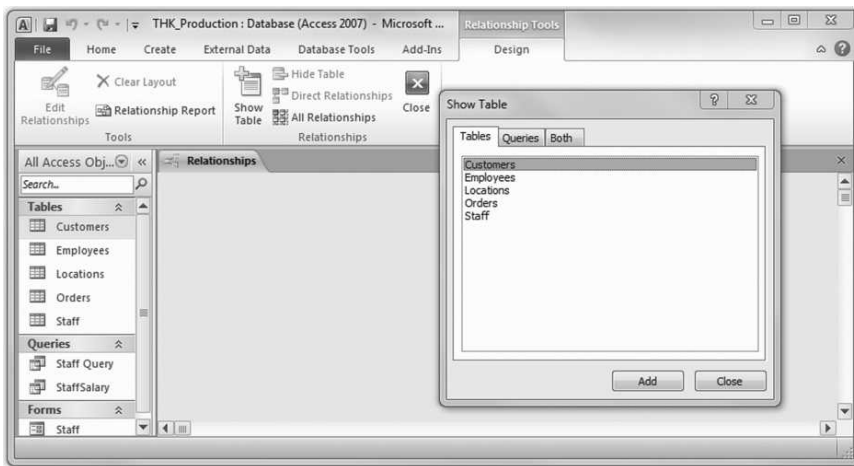
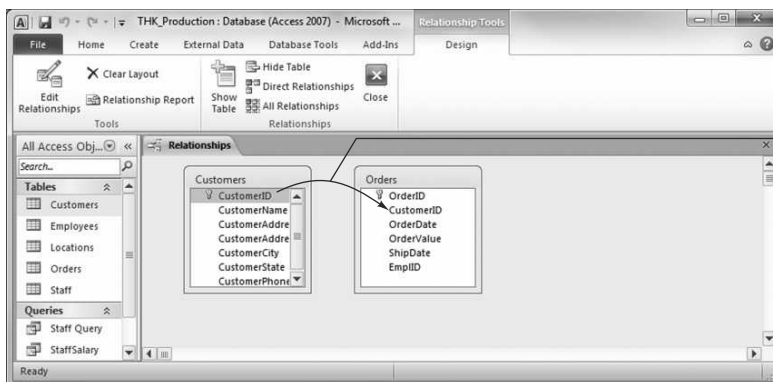


Fig. 5.24 The Show Table dialog box

- Click the first table (e.g., Customers) in the Show Table dialog box and click **Add**. In the same way, select additional table(s) and click **Add**. Finally, click **Close** to close the Show Table dialog box. Access displays the selected tables in the Relationship window, as shown in Fig. 5.25.



Drag the CustomerID field from the Customers table to CustomerID field in Orders table to establish a relationship between the tables

Fig. 5.25 Establishing a relation between tables

- After the tables/queries are available in the Relationships window, to establish the relationship between them, drag the common linking field from the first table and drop it on the other. For example, in Fig. 5.25, the common linking field is CustomerID, therefore, to link the tables on the CustomerID field, we need to drag the CustomerID field from the customers table and drop it on the CustomerID field in the orders table, as illustrated in Fig. 5.25.

After you drop the linking field, Access displays the Edit Relationship dialog box shown in Fig. 5.26. In the Edit Relationship dialog box, Access lists the tables/queries used in the relationship and the fields being linked.

- If the dialog box displays the correct field name(s), click the **Create** button to ask Access to go ahead and create the relationship. Access closes the Edit Relationship dialog box and displays a relationship line between the linked tables as shown in Fig. 5.27. In the same way, you can establish additional relationship between any two tables/queries.

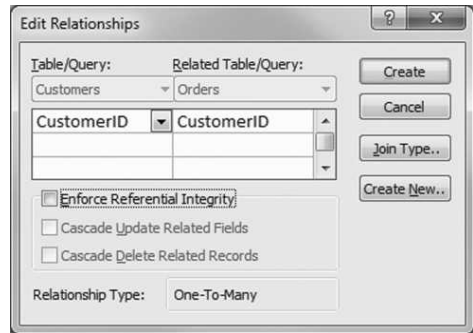


Fig. 5.26 Edit Relationship dialog box

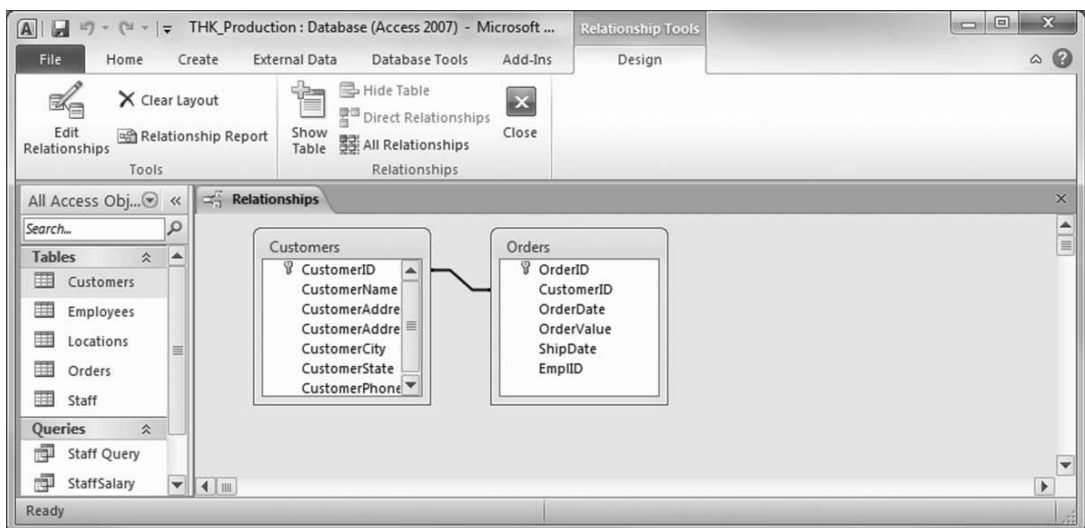


Fig. 5.27 A relationship established between two tables

5.10 VIEWING RELATED INFORMATION



After you have established a relationship and open the table/query to view data, Access can provide the linked data. For instance, consider the customers and orders tables linked in the previous section. Now if the customers table is opened, Access displays a plus (+) sign in the first column, as shown in Fig. 5.28.

CustomerID	CustomerName	CustomerAddress1	CustomerAc	CustomerCity	CustomerState
A100	Raj Computers	A100, Ring Road	Lajpat Nagar	New Delhi	Delhi
A101	HNC Communicati	A234 M G Road	Vikas Puri	New Delhi	Delhi
N201	Cutler Systems	878 Mathura Road		Faridabad	Haryana
N210	ALF Hardware	220 Janpath		New Delhi	Delhi

The plus sign (+) indicates linked information. Click to view the linked information

Fig. 5.28 Viewing the records in the customers table linked to the orders table

The plus sign indicates that linked information is available. On clicking this sign, Access displays the linked information from the orders table, as shown in Fig. 5.29. Notice that Access has replaced the plus sign with the minus (–) sign. To remove the display of the linked information, click the minus sign.

CustomerID	CustomerName	CustomerAddress1	CustomerAc	CustomerCity	CustomerState
A100	Raj Computers	A100, Ring Road	Lajpat Nagar	New Delhi	Delhi
	OrderID	OrderDate	OrderValue	ShipDate	EmplID
	1	18-08-2012	₹ 60,000.00	26-08-2012	100
	3	24-08-2012	₹ 34,000.00	08-09-2012	230
	7	02-08-2012	₹ 45,000.00	07-09-2012	100
	(New)				
A101	HNC Communicati	A234 M G Road	Vikas Puri	New Delhi	Delhi
N201	Cutler Systems	878 Mathura Road		Faridabad	Haryana
N210	ALF Hardware	220 Janpath		New Delhi	Delhi

Click the minus (–) sign to remove the display of the linked information

Fig. 5.29 Viewing the linked information

5.11 WHAT IS A QUERY?



If you look for the meaning of query in dictionary, you would find something like “to ask questions” or “make inquiry”. However, in databases, the query means the result of a question. For instance, a query may return the list of record from the invoice table that have amount greater than 10,000 and where the customer city is Mumbai.

In the earlier part of the chapter, you learnt to filter records from a table. A query can also be used for the same purpose with a greater flexibility. You may choose to include selected fields from one or more tables or queries to create a query. For all practical purposes, a query is like a table which can be used in all places where a table can be used, including reports and forms. To create a simple query, you may use *Query Wizard*. To create a complex query, it is best to use *Query Design*.

5.11.1 Creating a Simple Query with Query Wizard

The query wizard guides you through each step of the query design process. Let us create a simple query based on the Staff table.

- Click **Staff** in the Navigation pane in the Tables section to select this table. Click the **Create** tab on Ribbon and then click **Query Wizard** on the Queries group as shown in Fig. 5.30.
- Access displays the New Query dialog box with Simple Query Wizard selected as shown in Fig. 5.30. Click **OK** and Access displays the list of fields available in the selected table as shown in Fig. 5.31.



Fig. 5.30 Using Query Wizard to create a simple query

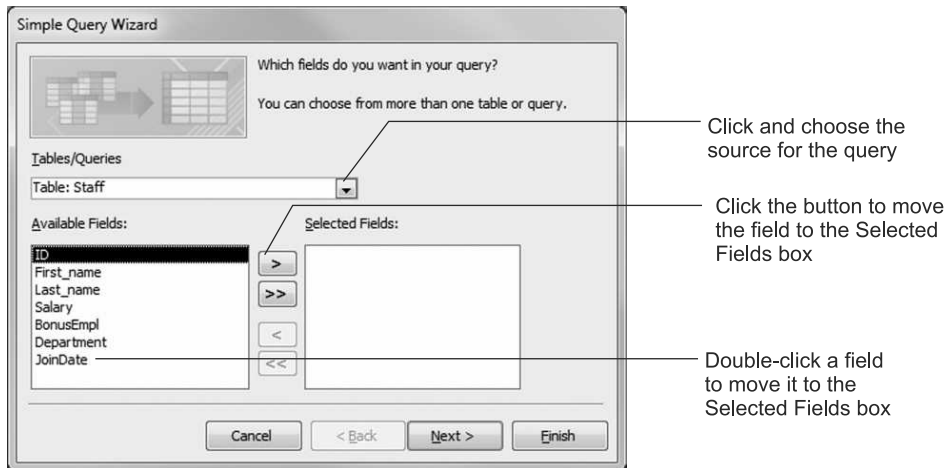


Fig. 5.31 First step of the Simple Query Wizard

- If Simple Query Wizard is not displaying the correct source table that will be the base for the query you want to create, click drop-down arrow on the right of the Tables/Queries box and choose the correct table or query. On selecting a table/query, Access displays the list of available fields in the Available Fields box.
- The next step is to move the fields that you want to include in the query. Double click the desired fields in the required sequence to moves these to the Selected Fields box. You may also choose fields from more than one table/query. After choosing the fields, click the **Next** button to display the next step of Simple Query Wizard.
- As shown in Fig. 5.32, in this step you choose whether you want to see details or summary in the query. The Summary option is used when you want to find minimum, maximum, sum and average values for numeric fields. On clicking the **Next** button, Access displays the last step of the Wizard as shown in Fig. 5.33.



Fig. 5.32 The second step of Simple Query Wizard

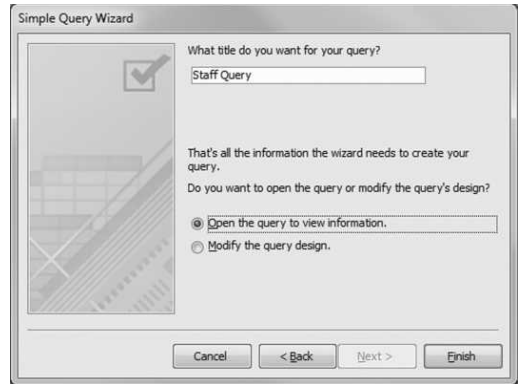


Fig. 5.33 The last step of Simple Query Wizard

- In this step, Access displays a default name for the query, which you may change if you prefer. On clicking the **Finish** button, Access displays the result of the query on your screen in the Datasheet view, as shown in Fig. 5.34. Notice that Access displays the name of the query you have created in the Queries object section in the Navigation pane.

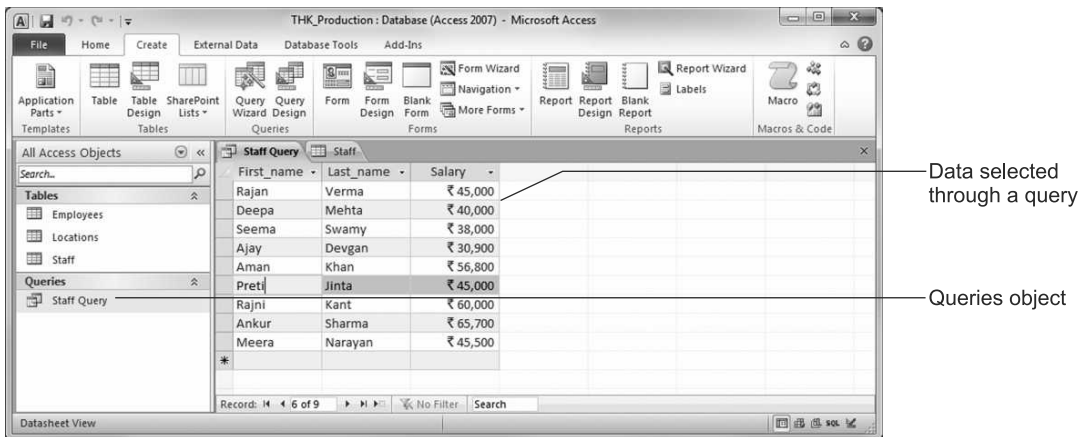


Fig. 5.34 Data selected through a query

5.11.2 Creating a Query in Design View

Simple Query Wizard does not give you a lot of flexibility; therefore, most queries are designed in the Design View.

- To create a new query in the Design View, click the **Create** tab on Ribbon and then click **Query Design** on the Queries group, as shown in Fig. 5.35.

Access displays the Query Design window similar to that shown in Fig. 5.35. It also opens the Show Table dialog box that lets you choose tables and/or queries for the query you want to design.

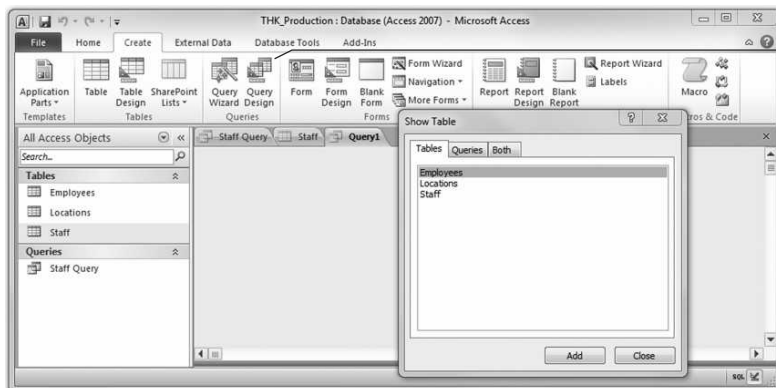


Fig. 5.35 *Designing a query in Design View*

- To add a table, double click its name in the Show Table dialog box and Access displays it in the upper half of the Query Design window. If you choose multiple tables and/or queries, Access may link these using a common field, if available. After adding tables/queries, click the **Close** button in the Show Table dialog box to close it. Figure 5.36 displays a table added to the Query Design window.

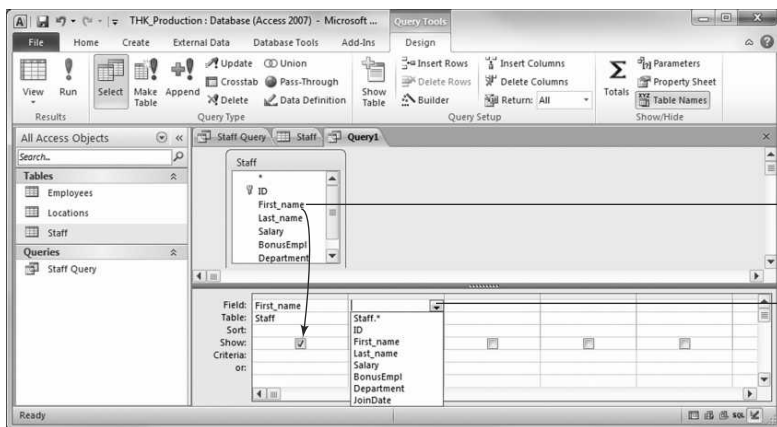


Fig. 5.36 *Adding field to the query*

The next step is to choose the fields that you want to include in your query. The lower part of the Query Design window has an empty table to hold the fields you want in the query output. One way to add a field to the query result table is by double clicking or dragging it from the fields list displayed in the table(s) added to the Query Design window, as illustrated in Fig. 5.36. Another way to add a field is by clicking in the Field box in the lower pane of the Query Design window and then clicking on the down-pointing arrow to display the list of available fields, as illustrated in Fig. 5.36. Then click the desired field and Access includes it in the Field box. If the field list, you would also find entries such as “Staff.*”, which means all fields from the table.

5.11.3 Showing or Hiding a Field

By default, all fields that you add to the query are displayed in the query result or output. Notice that there is a ✓ symbol in the Show row for each field in Fig. 5.37. To remove a field from the query result, click in the Show row of the corresponding field to remove the ✓ symbol, as illustrated in Fig. 5.37.

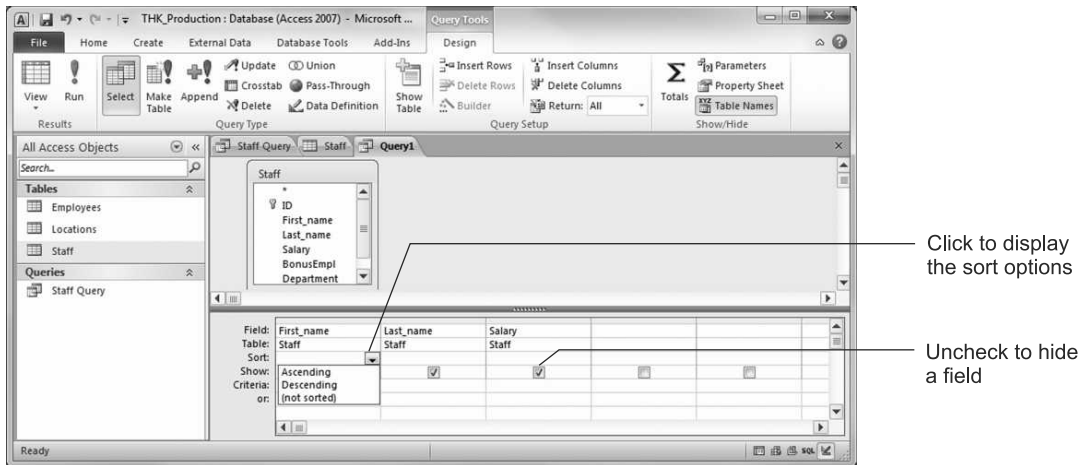


Fig. 5.37 *Sorting query result and hiding fields*

5.11.4 Sorting Query Output

You can sort the query result in ascending or descending order of any number of fields through the Sort row in the Query Design window.

- To sort the result on any field, click the mouse in the corresponding column in the Sort row to display a down-pointing arrow. Next, click this down-pointing arrow to display the three sort options, as illustrated in Fig. 5.37. On choosing the desired option, Access displays it in the Query Design window. To sort the query on additional fields, repeat the same process on other fields.

5.11.5 Using Criteria

The Query window allows you to specify criteria (conditions) in the Criteria row to limit the records you see as the query result. For instance, with reference to the Staff table you may want to see only those records where *Salary is greater than 50000*. This is entered as ">50000", as shown in Fig. 5.38.

Similarly, you may use the other usual comparison operators, such as <, <=, >= and <>. To specify multiple conditions, you can join these with AND. For instance, to select records with salary greater than 50000 and less than 70000, you may use the criteria: >50000 AND <70000. If you want to specify a criteria where either of two conditions may be true, e.g. *salary greater than 50000 or Salary less than and equal to 30000*, specify the first condition (>50000) as usual and specify the second condition (<=30000) in the "or;" row, as illustrated in Fig. 5.38. If you want to filter records that have a specific value in a field, e.g. salary equal to 60000, use "=60000" or "60000" as criteria in the corresponding column. To specify complex criteria, Access supports a few keywords/wildcard characters, such as IS NULL, IS NOT NULL, IN, LIKE, * and ?. Use IS NULL or IS NOT NULL to specify a condition

where a field value is blank (null) or not blank, respectively. To specify a text condition where value in a field starts with A, e.g. Aman, Ajay, Ankur, etc., use the criteria “LIKE A*”.

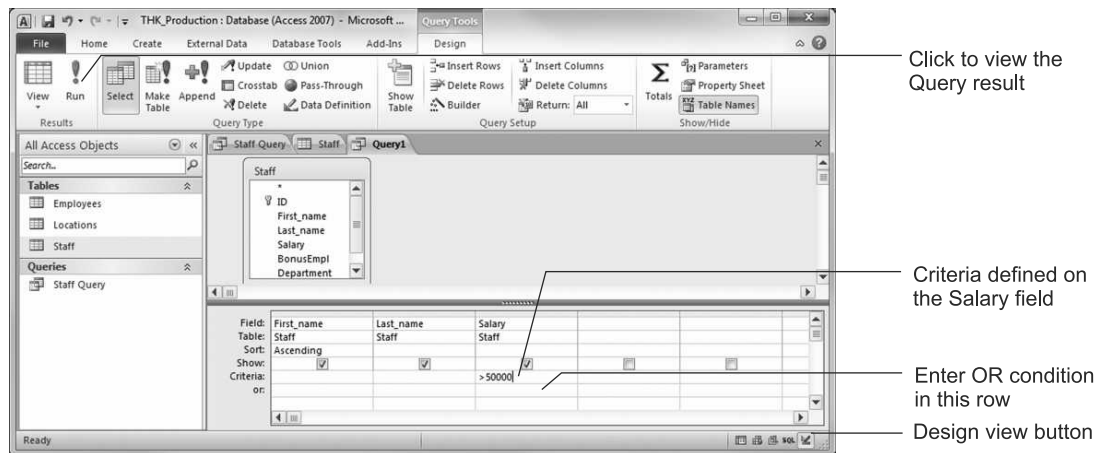


Fig. 5.38 Using Criteria on the Salary field

5.11.6 Running a Query

To view the query result, click the **Run** button (see Fig. 5.38) or click the Datasheet View button on the Status bar.

5.11.7 Saving a Query

- To save the query, click the **Save** button on the Quick Access toolbar and Access displays a Save As dialog box which contains a default name such as Query1. Type a suitable name that describes the type of query you have designed and click **OK**. To view the query result, double click the query name in the Navigation pane.

5.11.8 Modifying a Query

- To modify a query, click its name in Navigation pane in the Queries section and click the **Design View** button on the Status bar (See Fig. 5.38). This opens the Query Design window and you may make the necessary changes.

5.12 WHAT IS A FORM?




A form is a special kind of object whose primary function is to let a user view or enter data in tables one record at a time in a user-friendly manner. Though the information displayed in a form may be the same as that displayed when you view a table or query in the Datasheet window, it is easier to view and enter data as you can layout the fields on the form in an easy to understand way. In the beginning, you may use the Form tool to ask Access to create a form for you. Form Wizard provides another option to create a quick form. Later you can use the Form Design tool to create a form from scratch or modify an existing form, including those created using the Form tool or Form Wizard.

5.12.1 Building a Form Using the Form Tool

To build a form using the Form tool, follow the following simple steps:

- Open the database, if required and click the table/query in the Access Objects pane on the left that you want to use as the data source. For instance, click **Staff** if you want to create a form to enter/view data in the **Staff** table.



- Click the **Create** tab on Ribbon and then click  on the Forms group.

Access designs the form and displays it on your screen, as shown in Fig. 5.39. Access also displays Form Layout Tools on the Ribbon. These tools are used to change layout and format of the form as well as to add more controls on the form. Notice the *Navigation bar* at the bottom of the form which is used to navigate to the records of the table. (Refer to Section 5.7 to learn how to use the Navigation bar.) The Form tool puts all fields from the selected data source on the form. It uses the field name or caption as data labels.

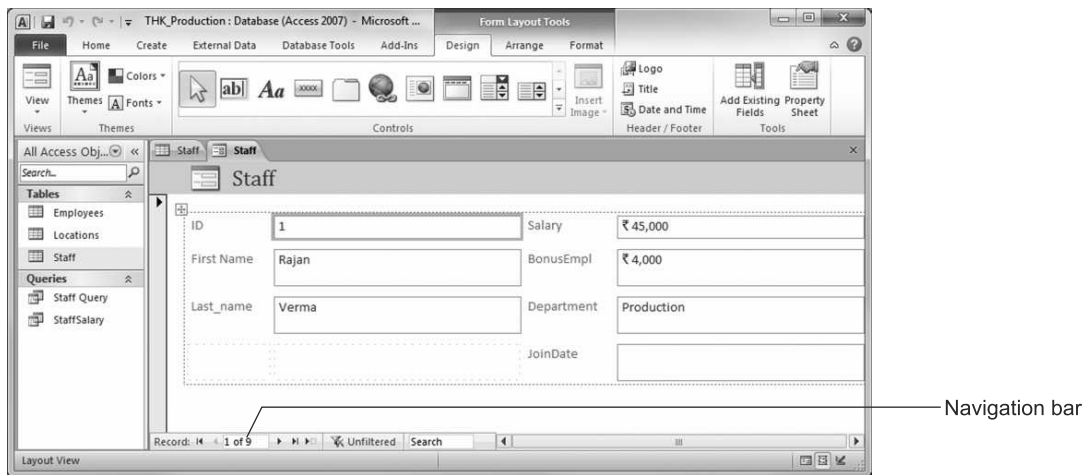


Fig. 5.39 A Form designed using the Form tool

- To save the form, click the **Save** button on the Quick Access toolbar and then type a suitable name for the form in the Save As dialog box displayed by Access. On saving the form, Access display the form name in Navigation pane on the left.

5.12.2 Creating a Form Using Form Wizard

The Form Wizard creates a form based on one or more tables or queries in the database. In case of linked table/queries, you may use more than one table/query with your form.

- Click the **Create** tab on Ribbon and then click **Form Wizard** on the Forms group. Access displays the first step of the Form Wizard shown in Fig. 5.40 where you choose the tables/queries and the fields you want to include on the form.
- To choose a table or query, click the arrow on the Tables/Queries drop-down list box and click the desired table/query. Then move the required fields from the Available Fields box to the Selected

Fields box by double clicking field names or using the Move button, as illustrated in Fig. 5.40. Figure 5.41 displays a few fields moved from the Staff table.

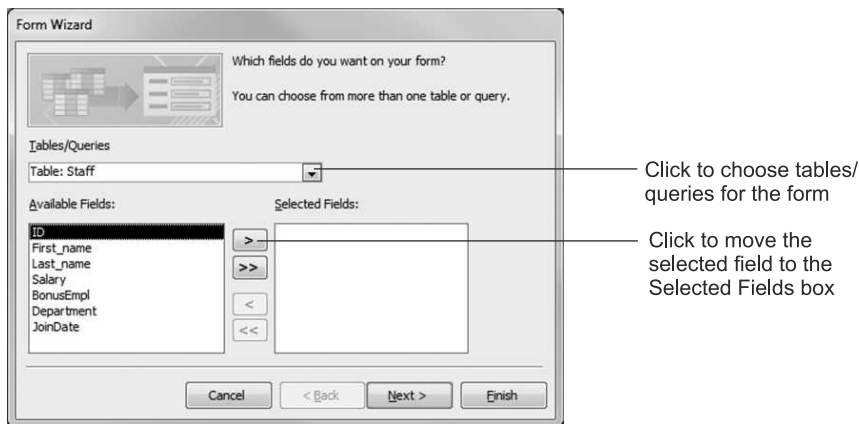


Fig. 5.40 *The first step of the Form Wizard*

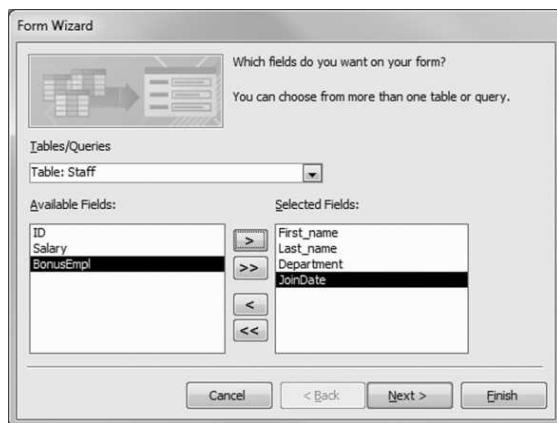


Fig. 5.41 *The Form Wizard with fields selected to be included on the form*

- After choosing the fields, click the **Next** button and Access displays the next step of the Form Wizard shown in Fig. 5.42. In this step you choose the layout for the form. As you choose a layout option, the Form Wizard displays its preview in the preview box on the form. The first layout option, Columnar is the most preferred option.
- After choosing the layout option, click the **Next** button and you see the last step of the Form Wizard as shown in Fig. 5.43. In this step, you enter the name you want to assign to the form. You may choose to keep the default name suggested by Access or type your own name.
- After entering the name, click the **Finish** button to save the form, and Access saves the form and opens it to view/edit data in the corresponding table/query.

A sample form created by the Form Wizard is shown in Fig. 5.44. Notice that the form contains a navigation bar at the bottom that is used to select records. Any changes you make to the data through the form are automatically saved in the corresponding table.

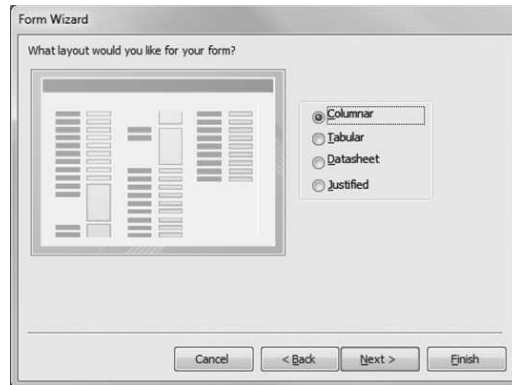


Fig. 5.42 Choosing the form layout in the Form Wizard

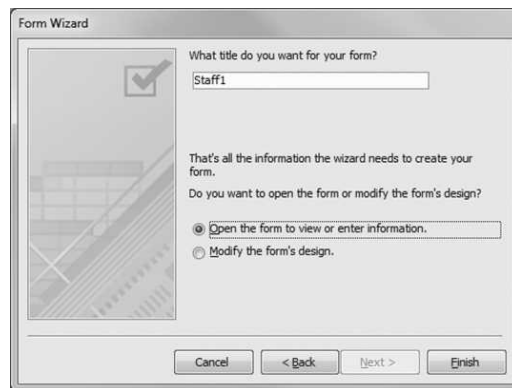


Fig. 5.43 The last step of the Form Wizard

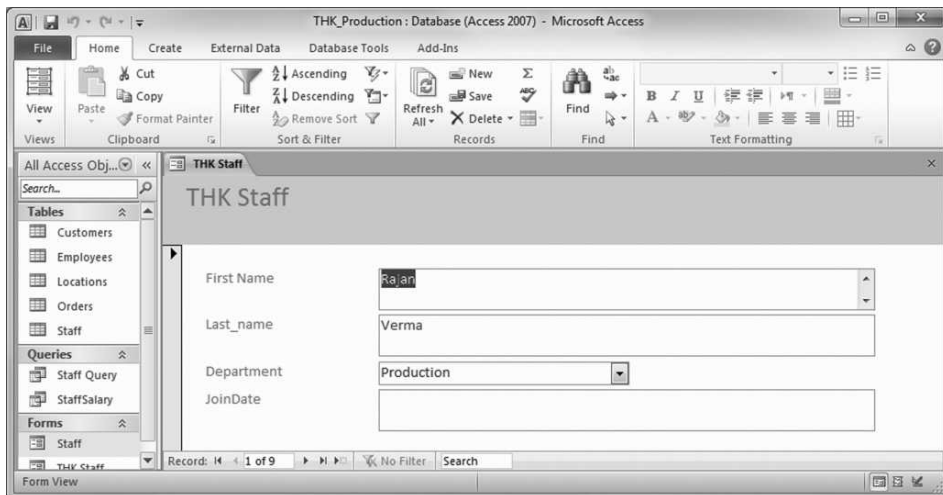


Fig. 5.44 Data being edited through a form

5.12.3 Creating/Modifying a Form in Design View

Creating a form in the design view gives you greater control of the form design process and where you place the various data entry controls on the form. The Design View also enables you to add code to the form object to have better control on the data entry through the form.

- To create a form in the design view, click **Form Design** on the Forms group on the Create tab on the Ribbon.

Access displays an empty Form design window and Form Design Tools on the Ribbon, as shown in Fig. 5.45. The Controls group on the Ribbon displays various controls (form objects), such as label, text box, check box, list box, combo box, etc. that you can place on the form.

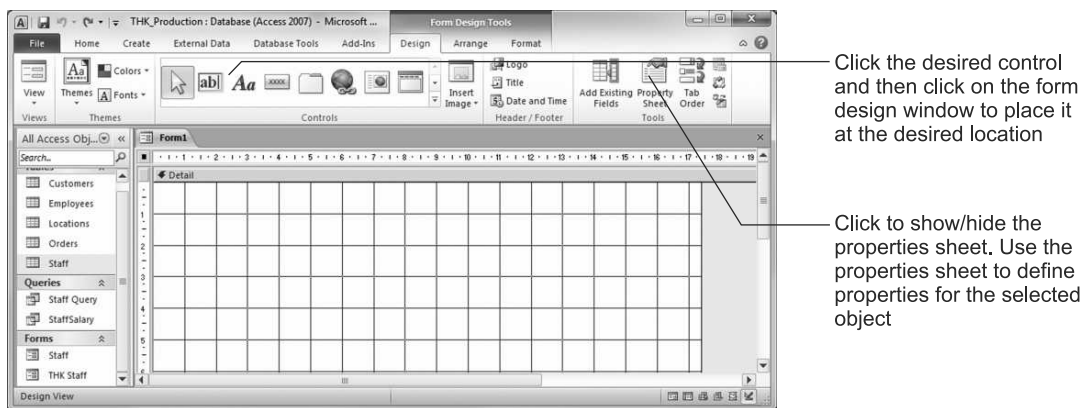


Fig. 5.45 The Form Design window

First you need to define the *record source* for the form, which could be a table or query.

- Click **Property Sheet** on the Ribbon (See Fig. 5.45) to display the Property Sheet and click the down arrow to the right of the *Record Source* box to choose the record source, as illustrated in Fig. 5.46.

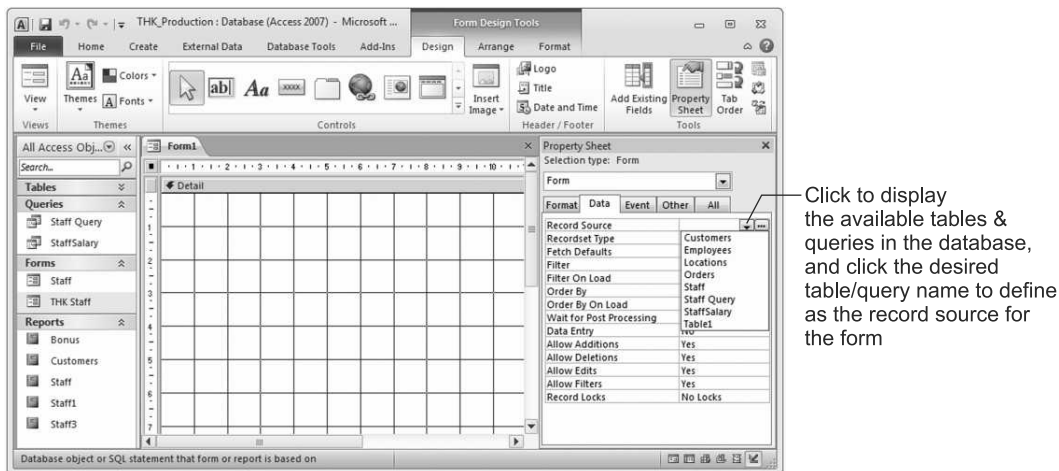


Fig. 5.46 Defining the record source for a form

Now you can place objects, e.g., text box, label, check box, etc., on the form.

- To place an object on the form, click it in the Controls group and then click on the form where you want to place it.

When you create an object, e.g., a text box, on the form that can accept data, it is initially shown as unbound, as shown in Fig. 5.47. However, since forms are used to edit data in table, the data entry objects are normally bound to some field of a table.

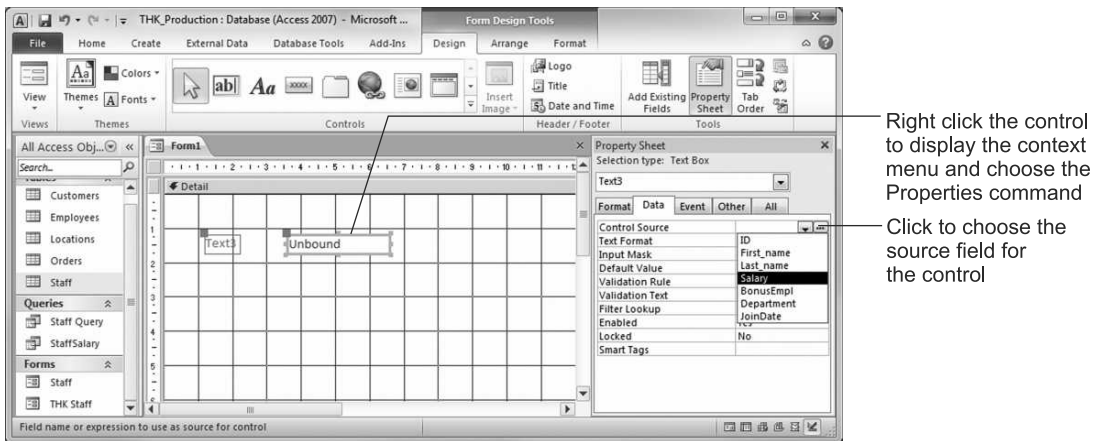


Fig. 5.47 Defining the control source for a control

- To bind an object to a field, right click the object to displays a context menu and choose the Properties command to displays the Properties window and choose the **control source**, as illustrated in Fig. 5.47. The Properties window is also used to set all sorts of properties, such as font size, font style, back color, format, default value, input mask, etc.

After you have laid out the required controls, you can save and run the form in the usual way. Besides creating a new form, the Design View can also be used to modify an existing form; right click the form name in the Navigation pane and choose Design View.

5.13 CREATING A REPORT



While you can see the data available in an Access database on the screen using the Datasheet view or on a form, often we need to print the required data in a presentable form. To accomplish this, you can create reports.

5.13.1 Creating a Report with the Report Tool

The easiest and quickest way to build a report in Access is to use the Report tool on Reports group on the Create tab. To accomplish this, all you need to do is select the data source (table/query) for your report and click the Report tool as illustrated in Fig. 5.48.

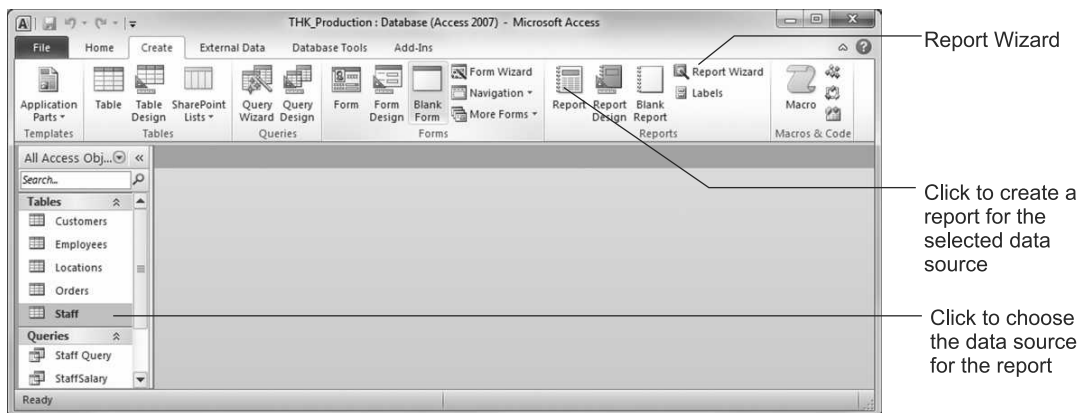


Fig. 5.48 Creating a report using the Report tool

Note If the default printer is not ready or incorrectly configured, Windows may display a message, “There was a problem retrieving printer information for this object.”

Access designs the reports and displays it on your screen. If you want to save the report, click **Save** on the Quick Access toolbar. Figure 5.49 displays a sample report creating using the Report Tool. Notice that the Report Layout Tools displayed on the Ribbon. You can use these tools to change the design, layout and format of the report. For instance, if you want to show the report title, e.g., *First Name* in bold letters or different color, click **Format** to display the formatting tools. (See Fig. 5.48.) Similarly, click **Page Setup** to change the page setup, such as margins, page size, orientation, etc., for the report.

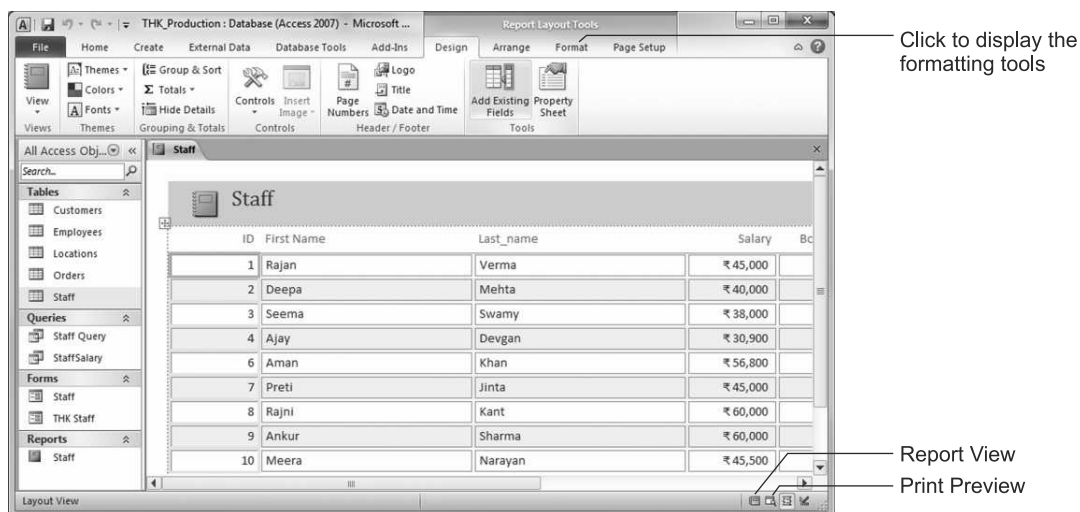


Fig. 5.49 A sample report designed with the Report Tool

- After you are satisfied with the report layout, click **Report View** on the Status bar to view the report. While displaying the report, Access displays a navigation bar that you can use to jump to other pages of the report, when your report contains multiple pages. Like a table, you can apply a filter on the report data.

5.13.2 Using the Report Wizard to Create a Report

The Report Wizard gives you more control over the design of the report. Like the Form Wizard, the Report Wizard lets you choose the data source and the fields to include in the report.

- Choose the data source for the report in the left Navigation pane and click **Report Wizard**.
- Access displays the first step of the Report Wizard shown in Fig. 5.50. Like the Form wizard you have used earlier, in this step you choose the table or query your report will be based on and the fields you want to include in the report.

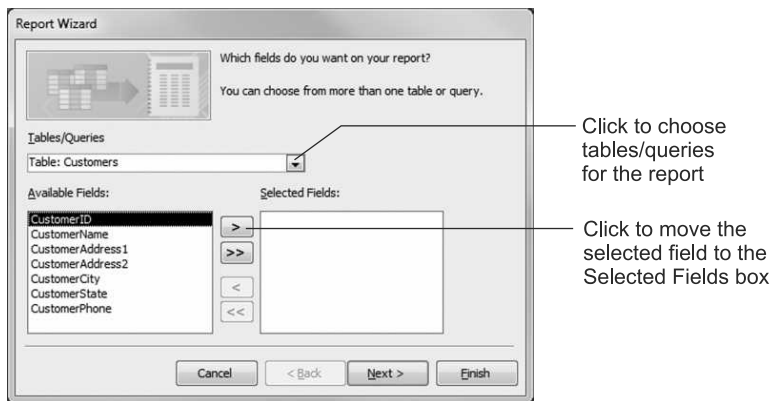


Fig. 5.50 *The first step of the Report Wizard*

- After choosing the fields, click the **Next** button and Access displays the next step of the Wizard, as shown in Fig. 5.51.



Fig. 5.51 *The Report Wizard displaying the option to group the report*

In this step, Access displays the list of selected fields and asks if you want to group the report on one or more fields. Grouping of the report is useful when there are multiple records for a data item, e.g., several customers from the same city, several orders for a customer or several salary records for an employee. The grouping of report is optional.

- On clicking the **Next** button, Access displays the next step of the wizard shown in Fig. 5.52.

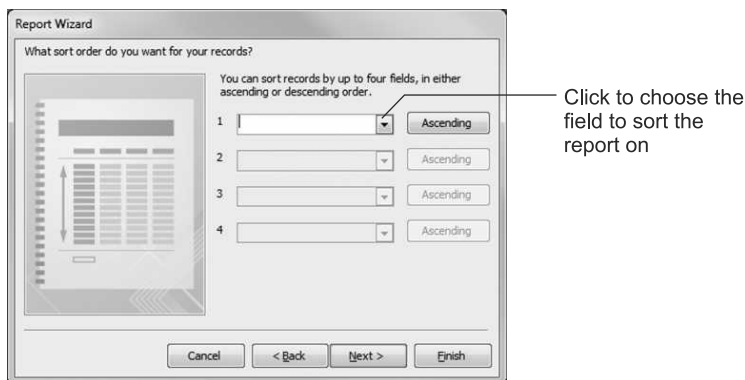


Fig. 5.52 *Sorting the report in the Report Wizard*

In this step, you choose field(s) to sort the report on. You may sort the report on one or more fields in ascending or descending order. For instance, you may sort the report on the Customer name to get the report in ascending order of customer names.

- On clicking the **Next** button, Access displays the next step of the wizard as shown in Fig. 5.53. In this step, you choose the layout and orientation for the report. The Landscape orientation is generally used when there are a lot of fields in the report.



Fig. 5.53 *Choosing the report layout and orientation in the Report Wizard*

- After choosing the report layout, on clicking the **Next** button, Access displays the last step of the Report Wizard shown in Fig. 5.54. In this step, you define a name for your report. You may use the default name suggested by the Wizard or type a new name.

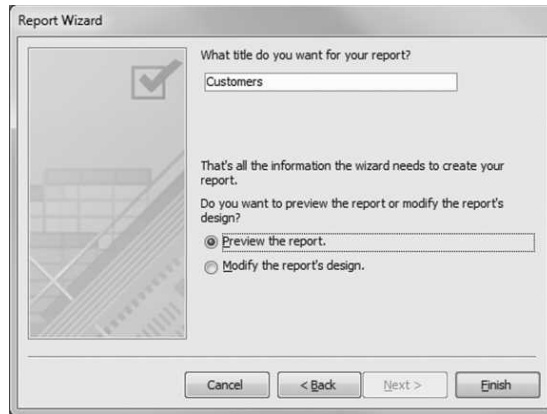


Fig. 5.54 *The last step of the Report Wizard*

After entering the report name, on clicking the **Finish** button, Access displays the report on your screen. A sample report created using the Report Wizard is shown in Fig. 5.55. Notice the navigation bar displayed at the bottom of the report which is used to display other pages of the report. The Print Preview tab on the Ribbon displays a couple of useful buttons including Zoom and Print. Access also displays the name of the newly created report in the Navigation pane.

5.13.3 Opening and Printing a Report

The quickest way to open a report is by double clicking the report object in the Navigation pane, as illustrated in Fig. 5.55. This opens the report in Report View.

- To print-preview the open report, click the **Print Preview** button on the Status bar, as illustrated in Fig. 5.55. You can also select the Print Preview view by using the View button on the Home tab.

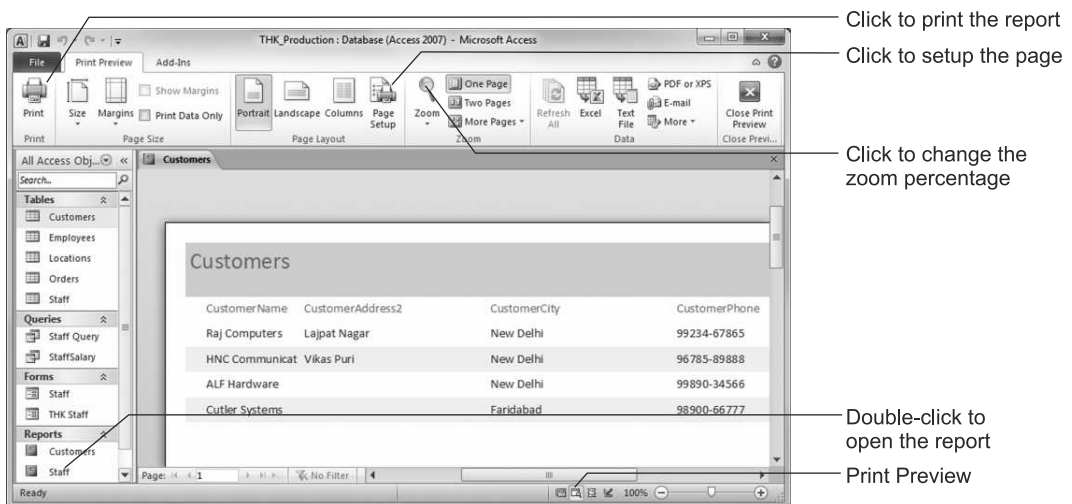


Fig. 5.55 *Preview of a report designed using the Report Wizard*

- To print the report, click the **Print** button (see Fig. 5.55) and Access displays the Print dialog box. You can select the printer, number of pages and other print properties in the Print dialog box. Finally, click **OK** to initiate printing of the report or click **Cancel** to cancel the print operation.

5.14 EXPORTING DATA FROM AN ACCESS OBJECT



If you need to send the report output in electronic format to someone, Access provides several options. For instance, you can save the table or report in Excel, Word, HTML, PDF, XPS, RTF (Rich Text Format), etc., in a file. It can even send the created file as an Email attachment to the recipients you specify.

- To accomplish this, select the required object (e.g., table, query or report) in the Navigation pane. You do not need to open the object.
- Click the **External Data** tab to display the Export, Import and other useful tools. Figure 5.56 displays an Access window with External Data tab open on the Ribbon.

Common export options are displayed in the Export group on the External Data tab. To display additional options, click the More button. Let us export data from a table in the Excel format.

- Click the required table name in the Navigation pane. Then click **Excel** on the Export group and Access displays an Export dialog box shown in Fig. 5.57.

In the Export dialog box, you specify the file name and folder to save the file and file format (e.g., Excel 2010, Excel 97, Excel 95, etc.). Access also enables you to specify some export options, e.g., you may save the data with formatting by choosing **Export data with Formatting and layout** checkbox. Similarly, you may choose to export only selected records or open the file when the export is complete.

- After you have defined filename, path and export options, click **OK** and Access initiates the export process. Depending on the number of records, the process may take a few second or longer.

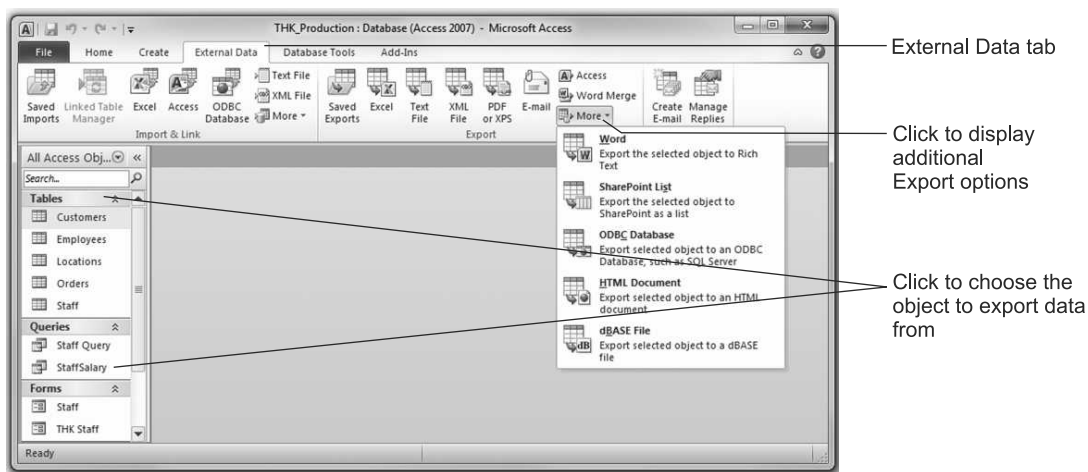


Fig. 5.56 Ribbon displays the External Data tab

- In the next steps, Access offers to save the export steps. You may save the export steps if you plan to do the same export on regular basis.

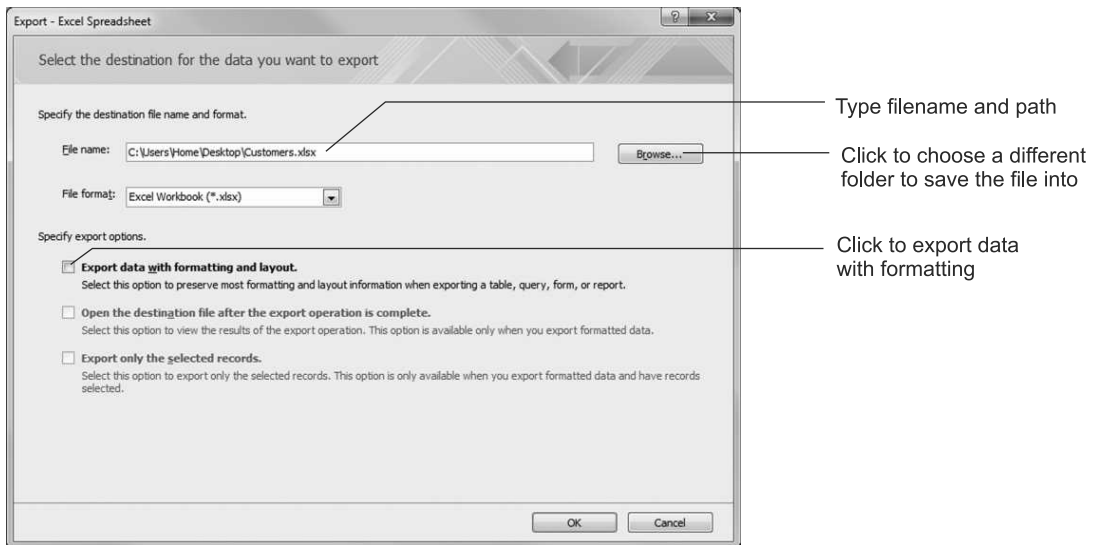


Fig. 5.57 The Export dialog box

5.14.1 Importing and Linking External Data

If the data that you want to use in a database exists in another file, including Access, Excel, dBASE, XML, HTML, ODBC databases and text file, Access allows you to *import* data from that file or *link* it to that file. Whether you import or link the data, your database is able to use the external data. The decision to import or link depends on the size of the external data as well as if you are allowed to import the data. If the size of the external data is huge, it is usually preferred to link rather than importing. The tools to link and import external data are available in the Import & Link group on the External Data tab (See Fig. 5.56). The process is similar to Exporting data discussed in the previous section—click the appropriate control (e.g., Excel if you want to import/link data from an Excel workbook), choose the file and the import/link option in Get External dialog box. When you import/link external data, you may append the records to an existing table or create a new table.

5.15 USING A TABLE/QUERY AS MAIL MERGE DATA SOURCE



If you need to merge the data available in a table/query with an existing or new Word document for Mail Merge, Access has all the required tools setup. The steps to accomplish this are similar to exporting a table/query to a Word document.

- Select the required table/Query in the Navigation pane and click **Word Merge** on the Export group on the External Data on the Ribbon. Access displays Microsoft Word Mail Merge Wizard on your screen as shown in Fig. 5.58.

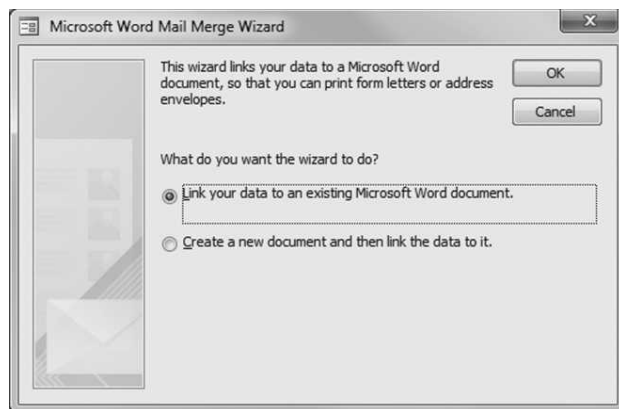


Fig. 5.58 Microsoft Word Mail Merge Wizard

The Microsoft Word Mail Merge Wizard window can link the Access data to an existing Word document or a new document for Mail Merge. If you choose to link to an existing document, it lets you choose a Word document. In either case, it links the Access data to the Word document and you may insert any of the fields available in the data in the Word document to setup the Mail Merge document with ease. For more information on how to create a Mail Merge document, see Chapter 3.

5.16 FINDING AND REPLACING DATA IN A TABLE



Access allows to find or find and replace data in a table in the same fashion as in a Word or Excel document.

- To do Find or Find and Replace operation on a table, open it in the Datasheet view and click **Find** on the Home tab. Alternatively, press **Ctrl+F** for Find or **Ctrl+H** for Find and Replace and Access displays the Find and Replace dialog box shown in Fig. 5.59.

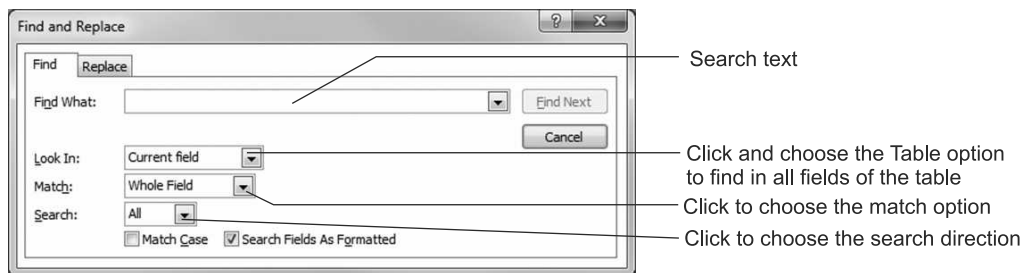


Fig. 5.59 The Find and Replace dialog box

- By default, Access finds the entered text in the current field; to search in all fields, click in the **Look In** box and choose the *Current document* option. The Match box is used to choose a match option out of the three available options: *Whole Field*, *Any Part of Field* and *Start of Field*. Depending on your requirement, you may choose other search options. On Clicking **Find Next**, Access highlights

the text, if it finds the text, otherwise displays a suitable “not found” message.

- To find and replace text, choose the Replace tab in the Find and Replace dialog box or press **Ctrl+H** if this dialog box is not open.

As shown in Fig. 5.60, the Replace tab of the Find and Replace dialog box is similar to Fig. 5.59, except that it contains an additional *Replace With* box and two extra Replace buttons. After finding the text with the Find Next button, you may click the Replace or Replace All button to replace the found text at the current or all occurrences of the text, respectively.

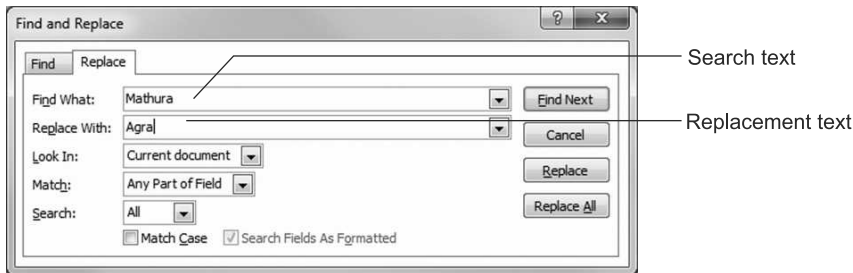


Fig. 5.60 The Replace tab of the Find and Replace dialog box

5.17 SPELLING CHECKING



Access includes a very useful spelling checking tool that can help you to avoid spelling mistakes in the text entered in your tables.

- To use the spelling checking tool, open the table that you want to check in the Datasheet view and press the **F7** key or click the **Spelling** icon on the Home tab Records group. If you want to check spelling of data entered in a particular field, select the data in that field by clicking the field header prior to starting spelling checking.

Figure 5.61 displays spelling being checked in a table. The operation of the spelling checking in Access is similar to that in Microsoft Word. One additional button found on the Access Spelling dialog box may be used to ignore spelling checking in the current field, as illustrated in Fig. 5.61. For general information on using spelling checking, refer to Chapter 3.

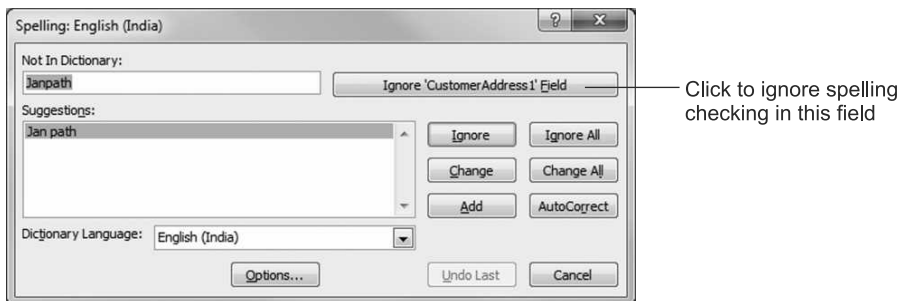


Fig. 5.61 The Spelling dialog box



5.18 FORMATTING DATASHEET

When you view a table in the Datasheet view, it is displayed using a default font, color, background and other effects as per the template it is based on. However, you can change text formatting for the data by using the Text Formatting controls available on the Home tab.

- Click the appropriate control on the Text Formatting group on the Home tab to format the Datasheet, as illustrated in Fig. 5.62. For example, click **Bold** to display the text in bold. Similarly, you may change the font typeface and font size.

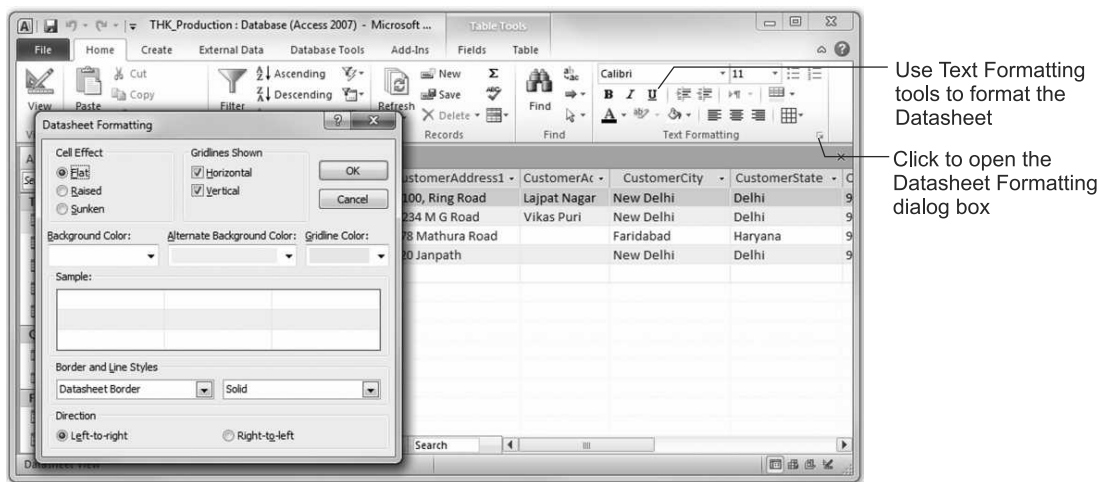


Fig. 5.62 Formatting Datasheet

- For an alternate way to change the Datasheet properties and to change other properties, e.g., cell effects, click **Dialog Box Launcher** to display the Datasheet Formatting dialog box shown in Fig. 5.62.

The cell effect, background color, gridline color can have dramatic effects on the appearance of a table in the Datasheet view. Figure 5.63 displays a table with raised cell effect and increased font size.

Customer	CustomerName	CustomerAddress	CustomerPhone	CustomerCity	CustomerState	CustomerPIN
A100	Raj Computers	A100, Ring Road	Lajpat Nagar	New Delhi	Delhi	99234-67865
A101	HNC Communities	A234 M G Road	Vikas Puri	New Delhi	Delhi	96785-89888
N201	Cutler Systems	878 Mathura Road		Faridabad	Haryana	98900-66777
N210	ALF Hardware	220 Janpath		New Delhi	Delhi	99890-34566

Fig. 5.63 A table displayed with raised cell effect and increased font size



5.19 PROGRAMMING IN ACCESS

While you can do most basic operations in an Access database without any knowledge of programming, to make the operation of the database more user-friendly for anyone who wants to use the database or to handle relatively complex issues, you need to use programming. To do programming in Access, you need to know Visual Basic for Applications (VBA), the programming language also used by Microsoft with other Office applications including Word and Excel. In Access, the programming code is stored in *macros* and *modules*. Macros are normally used for simple tasks, e.g., to add a button on a form to print a report. Modules, on the other hand, are used for relatively complex tasks including performing calculations. Usually, the code that you want to use from multiple locations, e.g., from different forms is typically stored in modules. The controls for a macro or module are available in the Macros and Code group on the Create tab. To insert a macro or module in your database, click the corresponding control. Then you can enter the code in the macro/module.



5.20 USING EXPRESSIONS AND EXPRESSION BUILDER

In the earlier part of this chapter, you created simple reports where you used fields from a table/query to display information. Besides using fields, you may also use *expressions* in reports as well as at other places. In simple words, an expression is any combination of fields, constant values, mathematical or logical operators, built-in functions, etc., that results in a single value. An expression may be used to perform calculations involving field values, e.g., you may calculate 10% of an amount field to calculate discount. Similarly, you may combine FirstName and LastName fields to display full name in a report or convert a name to upper or proper case. To use an expression, type it directly in the ControlSource box in the Properties Sheet.

- Right click the report name in the Navigation pane and click **Design View** to open the report in design view, as illustrated in Fig. 5.64.

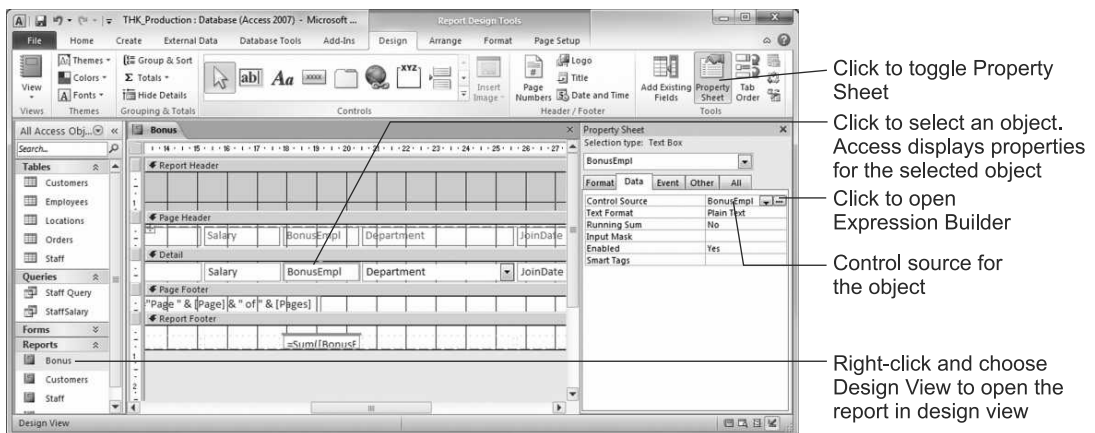
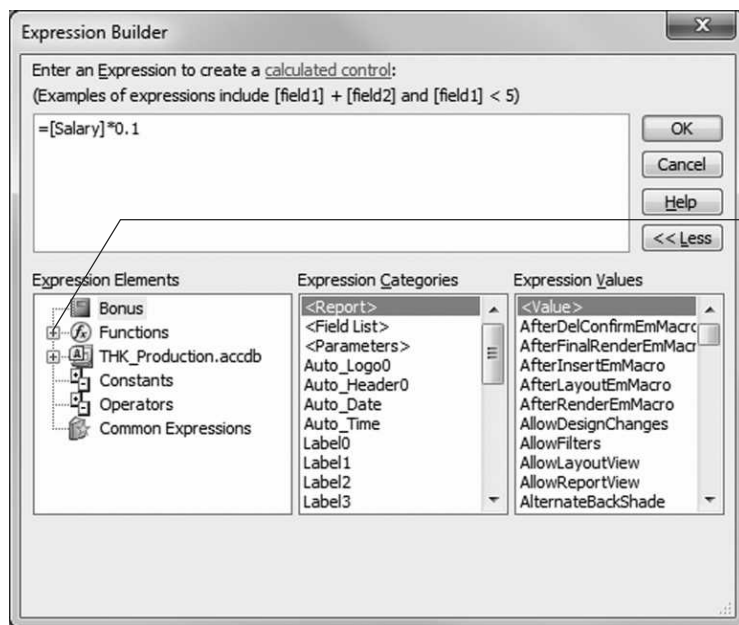


Fig. 5.64 A report open in Design View displaying Property Sheet

- If your report does not display the Property Sheet window, click **Property Sheet** on the Tools group. (See Fig. 5.64.) Click the **Data** tab in Property Sheet if required.
- Click the object whose control source you want to change. Figure 5.64 displays the control source for the BonusEmp object. Now you can type the new control source, e.g., `=Salary*0.1` to calculate bonus equal to 10% of Salary. Similarly, you may use the expression `= [Amount] + [Shipping]` to calculate the sum of Amount and Shipping fields.

Access has several build-in functions to perform various operations. These functions are classified under various categories, such as math, financial, text, database, date/time, general, SQL, array, etc. Since it is difficult to remember the syntax of over hundred functions available in Access, it provides an Expression Builder dialog box that can help you to choose a function and also provides details about the selected function. While creating a report or form, to use the Expression Builder for an object, open Properties Sheet, click in the *Control Source* textbox on the Data tab and then click the “...” button, as shown in Fig. 5.64.

Figure 5.65 displays an Expression Builder dialog box. You may enter the desired expression directly in the text box in the top-left box, or take the help of the Expression Builder dialog box to choose and enter the expression.



Expand the Functions node and click Built-In-Functions to display the available functions categories

Fig. 5.65 Expression Builder dialog box

- To view available functions, expand the function node in the left box and then click the Built-In-Functions to display the list of available functions categories in the middle box. On clicking a category, Access displays the list of available function in the right-hand box. Now, if you double click any function in the right-hand box, Access types that function in the top left box that you may

edit as per your requirement. Finally, click the OK button to apply the function to the object. For additional details on the usage of the built-in functions, click the Help button to open the Access help system.

5.21 USING ANALYZE TOOLS



To help you to optimize the performance of your database and to document it, Access provides three useful tools – *Analyze Table*, *Analyze Performance* and *Database Documenter*. These tools are available on the Analyze group on the Database Tools tab on the Ribbon (See Fig. 5.66). *Analyze Table* opens the Analyze Table Wizard shown in Fig. 5.66. This wizard takes you through a number of steps to analyze the selected table and provides suggestions to change the structure, if any.

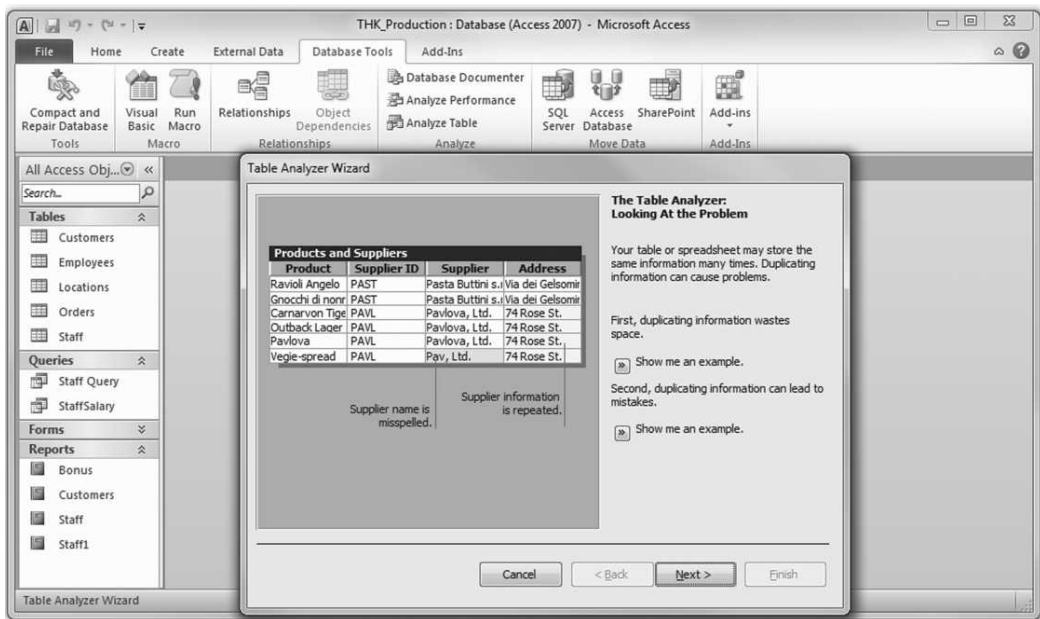


Fig. 5.66 Table Analyzer Wizard

5.22 DATABASE SECURITY



Often the data stored in an Access database contains sensitive information that you do not want everyone to see. To help you protect the data contained in a database from unauthorized access, Access can encrypt the database with a password. After a password has been assigned to a database, it can be opened only after providing the correct password.

- To assign a password to the database, you must first open it in the exclusive mode by using the **Open** command on the **File** tab and choosing the Open Exclusive option, as illustrated in Fig. 5.67.

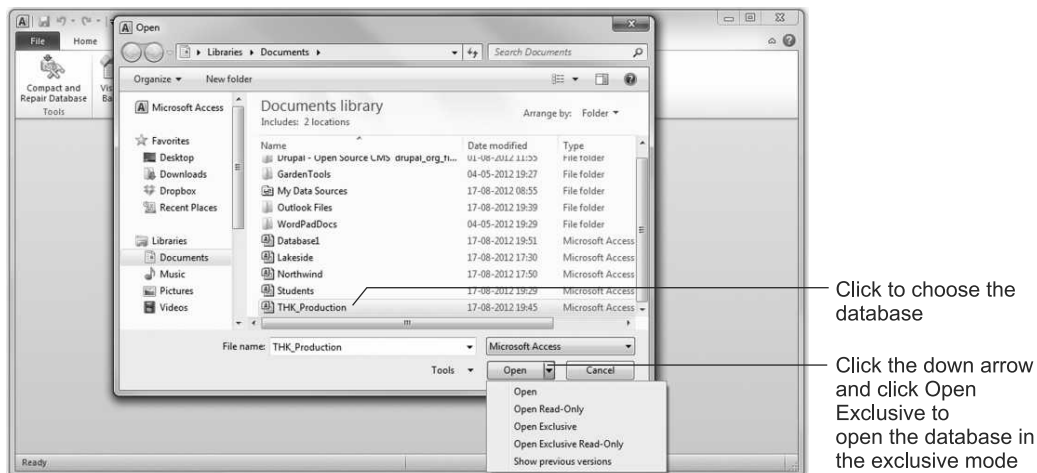
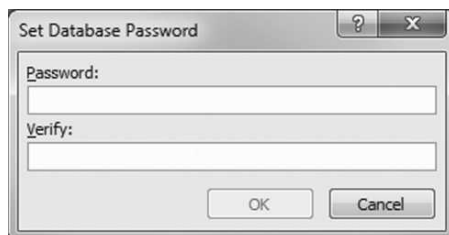


Fig. 5.67 Opening a database in exclusive mode

- After opening the database in the exclusive mode, click **File** to open the Backstage view, click **Info** and then click **Encrypt with Password**, and the Set Database Password dialog box appears, as shown here.



- Now enter the password in the dialog box, re-enter it in the Verify box and click the **OK** button, and Access makes the database password protected. Hereafter, the database can be opened only after providing the correct password, which is case sensitive.

5.22.1 Removing Password from a Database

- To remove password from a database, open it in exclusive mode.
- Click **File** to switch to the Backstage view, click **Info** and then click **Decrypt Database** and Access displays the Unset Database Password dialog box.
- Enter the database password and click **OK** to remove the password.

5.23 BACKUP A DATABASE



It is recommended that you backup all important databases. The backup database will be useful if your current database becomes unusable due to any hardware or software problem. You may backup the database to a CD/DVD/Flash memory. In a multi-user environment, all users must close the database before you will be able to backup. To back up a database:

- Click the **File** tab to switch to the Backstage view and click **Save and Publish**.
- Click **Save Database As** under File Types, click **Back Up Database** in the right pane and then click **Save As**, as illustrated in Fig. 5.68.

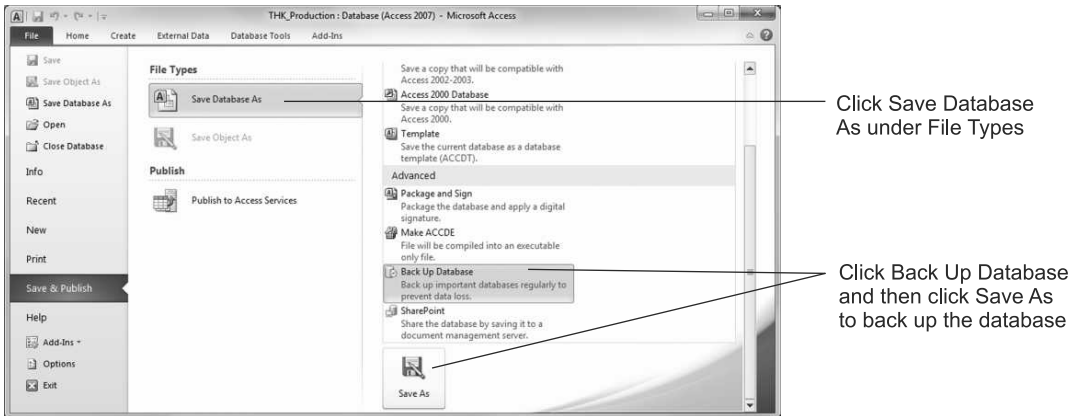


Fig. 5.68 *Backing up a database*

- In the Save As dialog box displayed by Access, type a suitable filename, change the folder if required and click **Save** to save the database.

6

MICROSOFT POWERPOINT

CHAPTER OBJECTIVES

In this chapter, we will discuss the following topics:

- ◆ *PowerPoint*
- ◆ *Starting PowerPoint*
- ◆ *Creating a Presentation*
- ◆ *Saving and Opening a Presentation*
- ◆ *Creating a Presentation using Design Template*
- ◆ *Editing and Formatting Slides*
- ◆ *Inserting Picture, Clip Art, Chart, Shapes, Smart Art and WordArt in a Slide*
- ◆ *Using Tables, Video and Audio in Slides*
- ◆ *Defining Header and Footer*
- ◆ *Spelling Checking and Correction*
- ◆ *PowerPoint Views*
- ◆ *Running a Slide Show*
- ◆ *Slide Transition and Animation Effects*
- ◆ *Creating a Presentation based on a Photo Album*
- ◆ *Slide Master*
- ◆ *Printing and Sharing a Presentation*



6.1 MICROSOFT POWERPOINT

Microsoft PowerPoint is a *presentation software* that can help you to quickly create effective 'slide-based' presentations. PowerPoint is a very effective communication tool which is quite different from other tools, such as Word and Excel, you are familiar with. PowerPoint is basically a visual tool that mainly uses graphics, pictures, visual layout, and colors to convey the message. It is also a multimedia tool, so you may use sound, video and animation to effectively communicate your message to the users. The presentation consists of a number of slides and each slide can have text, graphics, audio and video. Normally, you do not use too much text on slides. And, when there is a need to use text, you normally use bulleted or numbered lists to summarize important points. To make your presentation effective, PowerPoint has the capabilities to gradually add text or graphics to the slide using animation. For instance, instead of showing all the five bulleted points when the slide is displayed, you may initially start with one line of bulleted text, and show additional bulleted text, as you explain the text. Besides creating a video slide show that runs on a computer screen or multimedia projector connected to the computer, PowerPoint can help you to create transparencies/slides for overhead/slide projector, printed handouts, speaker's notes and outline of the presentation. It can also help you create a Windows Media file or CD of the presentation for easy sharing of the presentation with others. PowerPoint can even email the presentation to specified recipients.

To help you to quickly create a presentation, PowerPoint comes equipped with several templates or you can start with a blank presentation and it can help you add the required slides. Depending on the type of slide you want to include in the presentation, you can choose an appropriate slide. For instance, if you need to show a picture on a slide, you can choose the *Picture with Caption* slide. Then you can add the picture and other details in the slide. Similarly, if you want to show a chart, you can pick up the chart slide. PowerPoint helps you to enter and edit details in the slides you choose. You can easily format text and other graphics used in slides, and change the order of the slides as well as insert and delete slides in the presentation. PowerPoint can also help you insert and edit pictures, video and audio in the slides. After you have created the slides that you want to include in your presentation, you can print the slides, run the slideshow on the computer screen, package it on a CD for distribution, etc.

PowerPoint was initially introduced in 1990 and since then Microsoft has released several versions for the Windows as well as Mac operating systems. Some of the common versions for the Windows operating system are PowerPoint 1997, PowerPoint 2000 (Office 2000), PowerPoint 2002 (Office XP), PowerPoint 2003, PowerPoint 2007 (Office 2007) and PowerPoint 2010. Microsoft has added new features and redesigned the look and feel of PowerPoint with each new release, however, the basic features and how to use it has remained more or less the same.

In this chapter, we will use PowerPoint 2010. If you use any other version of PowerPoint, the screen displays that you get may be slightly different from those used in the examples in the chapter. However, versions prior to PowerPoint 2007 do not support the Ribbon interface. Therefore, to use the commands available on the Ribbon, you will need to use the corresponding menus.



6.2 STARTING POWERPOINT

You can start PowerPoint like any other Windows application.

- If there is an icon for PowerPoint on your desktop, double click that icon to start PowerPoint. The PowerPoint icon normally looks like



- If the PowerPoint icon is available on taskbar or Quick Launch toolbar on your taskbar, click the icon to start PowerPoint.
- You may also start PowerPoint from the Windows menu like any other program. The PowerPoint program may be located in the Start menu or anywhere in the menu system, however, normally you will find it in the Programs/All Programs submenu, Microsoft Office or Microsoft Applications. On Windows 7, click the **Start** button on the taskbar, click **All Program** and Windows displays the list of programs installed on your computer. Click the **Microsoft Office** folder in the programs list and click **Microsoft PowerPoint 2010**, as illustrated in Fig. 6.1 to start PowerPoint.

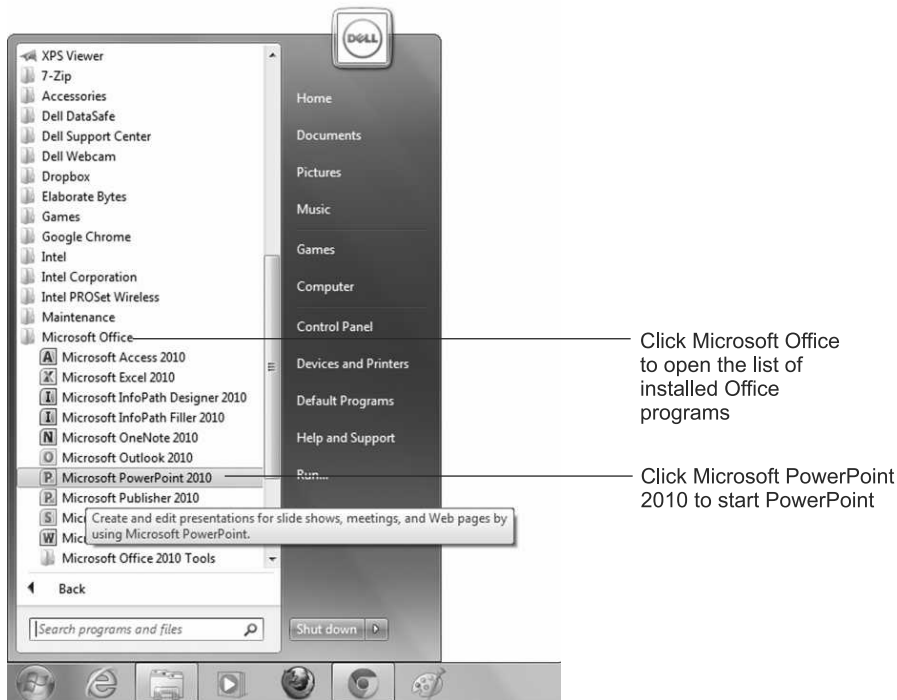


Fig. 6.1 Starting Microsoft PowerPoint

The Microsoft PowerPoint window appears with a new, blank presentation on your screen as shown in Fig. 6.2. PowerPoint has also inserted a title slide in the presentation.

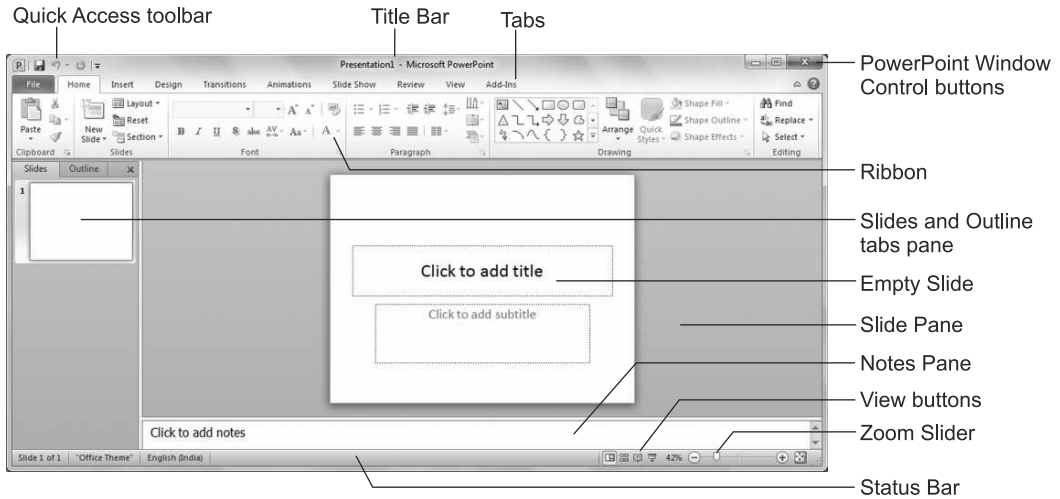


Fig. 6.2 Opening screen of PowerPoint with a blank presentation

The PowerPoint opening screen looks similar to the opening screen of the Word or Excel program, and if you are familiar with these programs, you will find the PowerPoint screen familiar.

When you start PowerPoint, it automatically creates a new presentation file—Presentation1. Notice that the name of the program (Microsoft PowerPoint) and the presentation file (Presentation1) are displayed in the *title bar* of the window. On the left side of the title bar is the Quick Access toolbar that contains controls for common commands, such as Save, Undo and Redo. Located beneath the title bar is the Ribbon that contains command and tools required to work with the presentation. The Ribbon has various tabs, such as File, Home, Insert, Design, Transitions, Animations, Slide Show, etc. The ribbon interface in PowerPoint works exactly like in other Microsoft Office 2010 programs. If you are not familiar with the ribbon interface, please refer to Section 3.2. Also, to learn how to customize the Quick Access toolbar or the Ribbon, refer to the section on customizing Word.

The PowerPoint window is divided in two vertical panes. The large pane on the right, called the *Slide pane* is used to design and edit one slide at a time. The *Notes pane*, located below the Slides pane is used to enter speaker's notes about the slide. These notes are also used to print *presentation handouts* for distribution. The pane on the left, called the *Slides and Outline tabs pane* displays thumbnails of the slides or the text on the slides in the outline format depending on the selected tab. You can resize these panes as per requirements by dragging the border lines between the panes.

Located at the bottom of the PowerPoint windows is customizable *Status bar*, which is used to display useful information, such as current slide number, the selected *theme*, buttons to select PowerPoint views, Zoom slider, zoom out and zoom in buttons, etc. Like other Microsoft Office applications, to customize the Status bar, i.e., to choose what you want to display on this bar, right click the Status bar and check/uncheck the corresponding options.

When you work in PowerPoint, you can either open an existing presentation or create a new presentation. Like other Microsoft Office programs, you can open an existing presentation by choosing the **Open** command on the Backstage view which you can display by clicking the **File** tab on the Ribbon.



6.3 CREATING A NEW PRESENTATION

When you start PowerPoint, it automatically creates a blank presentation. If you want to create a presentation from scratch, you do not need to do anything further and you can start working on the presentation. Besides creating a blank presentation, you can create a presentation based on other template too.

- Click the **File** tab to switch to the Backstage view and click **New** in the Navigation pane. Your screen should look similar to Fig. 6.3.

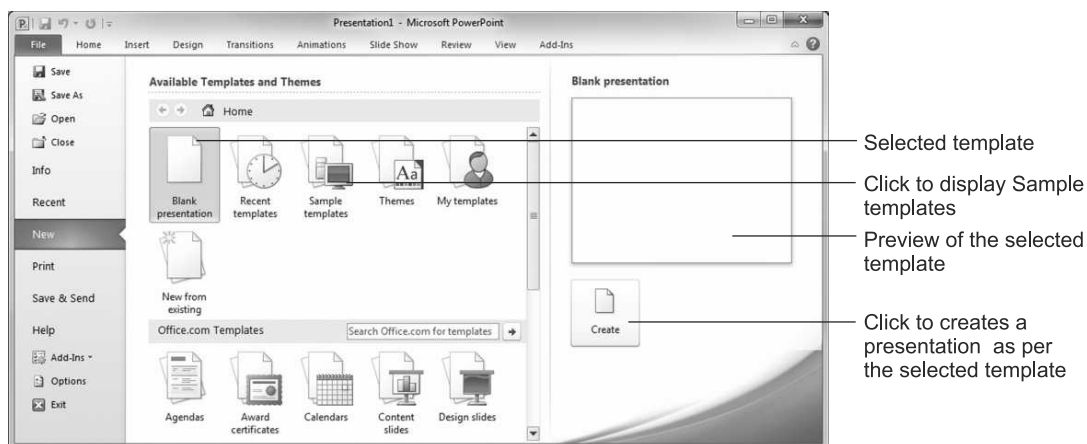


Fig. 6.3 Using a template to create a presentation

When PowerPoint is installed, it automatically installs a few templates that you can use, which are available in the *Available Templates and Themes* box. A *template* is a framework with predefined theme and design layout and may include one or more slides. If a template meets your requirements, it can speedup creation of the presentation. To view the templates installed on your computer, click **Sample Templates**. Some of the available sample templates include Classic Photo Album, Contemporary Photo Album, Introduction to PowerPoint 2010, Training, Quiz Show and Project Status Report. In addition, you may search for professional templates at **Office.com**, Microsoft's online resources and download these to your computer. When you click a template icon, PowerPoint displays its preview in the right pane.

- To create a blank presentation, click the **Blank Presentation** icon and click the **Create** button, as illustrated in Fig. 6.3. Similarly, to create a presentation based on any other template, click the corresponding icon and click **Create**.

Figure 6.4 shows a presentation based on the Training template. The presentation contains 19 slides and the first slide is displayed in the Slide pane. Notice that the left side of Status bar is displaying "Slide 1 of 19". The left pane is displaying thumbnails of slides in the presentation. On clicking a thumbnail, PowerPoint displays the corresponding slide in the Slide pane and you can modify it.

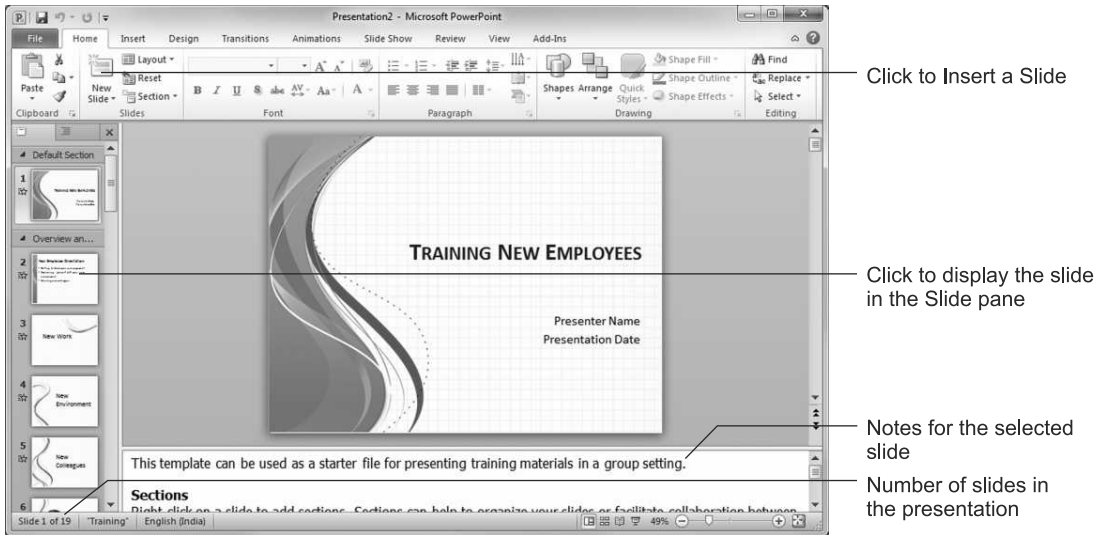


Fig. 6.4 Presentation based on the Training template

6.4 ADDING SLIDES TO A PRESENTATION




Whether you start with a blank presentation or a presentation based on a template, you will need to add new slides to your presentation. However, first, create a blank presentation, if one is not already open, following the steps given in the previous section. Your screen should look similar to Fig. 6.2.

- Click the title box and type the title for your presentation, e.g., **Zoom Digital Camera**. If you want to define a subtitle for the presentation, click the second box and type a suitable subtitle, e.g., **Glossy Electronics Ltd.**

6.4.1 Inserting a Slide

PowerPoint allows you to insert a new slide in your presentation in several ways. The new slide is inserted after the current slide, therefore, if required, click the thumbnail for the corresponding slide in the left pane.

- Click  (the New Slide button) on the Home tab (see Fig. 6.4) or right click in the left pane to display a context menu and click **Insert Slide**. You may also press **Ctrl+M** to insert a slide.

PowerPoint inserts a slide in the presentation and selects it, as shown Fig. 6.5.

- Now you can click in the title box to type title for the new slide. To add text for the slide, click “Click to add text” and type text. On pressing **Enter**, PowerPoint presents another line to enter text. By default, the text lines are shown as bulleted paragraph, however, you can use the controls available in the paragraph and Font group to change the format of the text lines, if required. The controls on Font and Paragraph groups work exactly like in Microsoft Word (Refer to Chapter 3 for details).

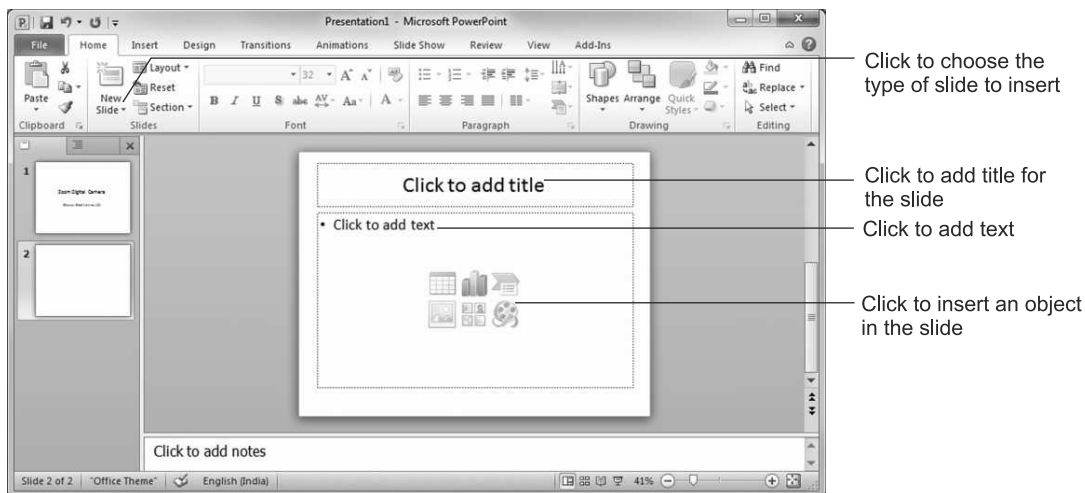


Fig. 6.5 A new slide inserted in the presentation


- The new slide shown in Fig. 6.5 is the default slide; however, PowerPoint supports a few other types of slides too. To display the slides gallery, click the down pointing arrow located below  (See Fig. 6.5.)

Figure 6.6 displays the Slides gallery containing icons for the various types of slides PowerPoint can insert in your presentation.



Fig. 6.6 Choosing a slide to insert in the presentation


- Click the icon for the slide that you want to insert in your presentation. You may click **Blank** to insert a blank slide. You may use *Duplicate Selected Slides*, *Slides from outline* or *Reuse Slides* to insert existing slides from the current or some other presentation file.

After inserting a slide, you can type text or add other object as you would learn later in this chapter.

6.5 SAVING A PRESENTATION



You save a PowerPoint presentation exactly like you save a document in Word or Excel.

- To save the presentation, click , the Save button on the Quick Access toolbar located at the top left corner of the PowerPoint window. You can also accomplish the file save operation by pressing **Ctrl+S**, the shortcut keys for the Save command. The Save command is also available on the Backstage view which you can open by clicking the **File** tab.

On using the Save command, PowerPoint displays the **Save As** dialog box shown in Fig. 6.7.

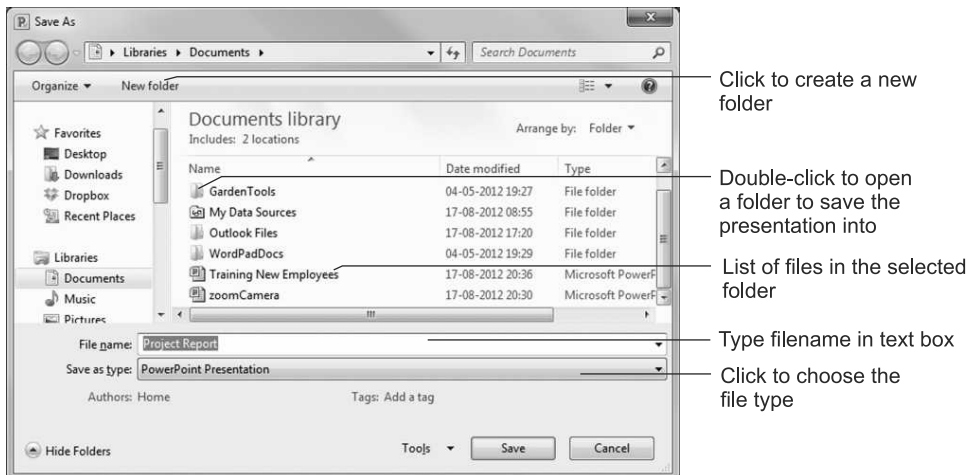


Fig. 6.7 *Save As dialog box*

Note If you are working on a presentation that already been saved once, the Save command resaves the presentation without displaying the Save As dialog box.

The Save As dialog box enables you to assign a filename to the presentation you are saving. Besides the filename, you can also select the drive and the folder where you want to store this file. The filename you want to assign to the presentation has to be typed in the filename box. PowerPoint selects a default drive and folder (directory) for saving files. For instance, in Fig. 6.7, the currently selected folder is 'Documents Library'. So, if you do not change the folder, the file will be saved in this folder. (Your computer may display a different folder.) If you want to save the file in some other folder, perform these steps:

- ◆ To select a folder visible in the Save As dialog box, double click it. For instance, to save the presentation in the GardenTools folder, double click to open this folder.
- ◆ To save the presentation in a new folder, click the **New Folder** button.
- ◆ To select a different major area, e.g., *Desktop* instead of *Documents Library*, click it. Then double click to open a folder that may exist in the selected area.

- After you have selected the folder, type a suitable filename. If you prefer, you may keep the filename suggested by PowerPoint. Finally, click the **Save** button to save the file.

6.5.1 Saving a Presentation in PDF and Other Formats

By default, PowerPoint saves the presentation in PowerPoint 2010 format (file extension .pptx); however, it can save the presentation in most popular formats, including PDF, PowerPoint 97-2003, JPEG, PNG, RTF, TIFF, OpenDocument Presentation, etc. To save a presentation in a specific format:

- Click the **File** tab to display the Backstage view and then click the **Save As** command. PowerPoint displays the Save As dialog box shown in Fig. 6.7.
- Click the **Save as Type** button (see Fig. 6.7) and PowerPoint displays a dropdown list containing the various supported file formats.
- Click the desired file format, e.g., PDF and click **Save** to save the presentation in the desired format.

Note When you save a presentation in other formats, PowerPoint tries to preserve the formatting as much as possible. This is particularly true for the PDF format.

6.6 CLOSING A PRESENTATION



- After you have finished working on a presentation, if you want to close it, press **Ctrl+W**. An alternate way to close the file is by clicking **Close** in the Backstage view, which you can open by clicking the **File** tab.

When you try to close a presentation that has unsaved changes, PowerPoint prompts you to save the presentation before closing it.

6.6.1 Closing the PowerPoint Application

- After you have finished working on your presentation, if you wish to close the PowerPoint application, click the **File** tab to display the Backstage view and then click **Close**. Alternatively, press **Alt+F4** keys or click the close button (X) located at the extreme right of the title bar to close PowerPoint.

6.7 OPENING AN EXISTING PRESENTATION



You can open an existing PowerPoint presentation with ease. If you want to open a presentation that you have edited recently, PowerPoint can help you to open it through the Backstage view.

- Click the **File** tab to display the Backstage view and then click **Recent** in the left pane.

PowerPoint displays a list of recent presentations in the middle pane shown in Fig. 6.8. If the presentation you want to open is listed in the Recent Documents box, you may click to open it. PowerPoint also displays the list of recent presentations in the left pane below *Close* in the left pane if the “Quickly access this number of Recent Presentations” checkbox in the middle pane is checked.

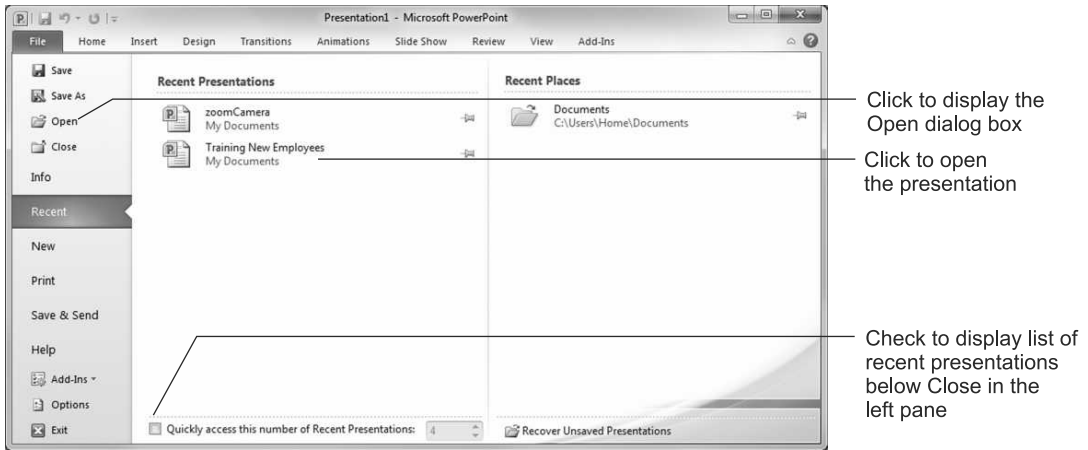


Fig. 6.8 Opening a presentation in the Backstage view

- If the presentation you want to open is listed in the Backstage view, click to open it, otherwise, click **Open** to display the Open dialog box shown in Fig. 6.9.

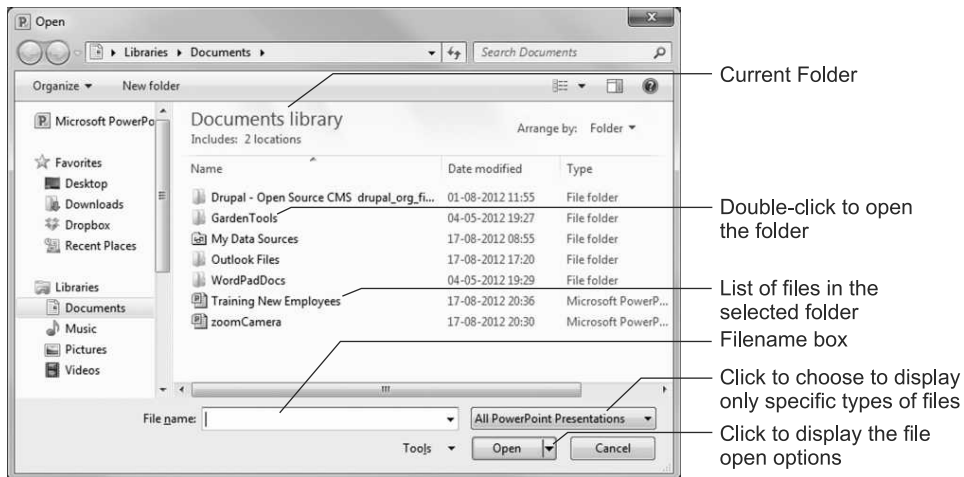


Fig. 6.9 Opening a presentation in the Open dialog box

Tip You can press **Ctrl+O** to display the Open dialog box from any tab.

The filenames displayed in the list box are only from the selected folder. For instance, in Fig. 6.9, the Open dialog box is displaying presentation files from the Documents Library folder. To display files available in other folders, you need to open the desired folder. To open any folder that is displayed in the Open dialog box, double click it. Similarly, to display files from a location/folder whose icon is displayed in the left pane, click it. For example, you may click **Desktop** to display workbooks available on your desktop.

- To open any presentation whose filename is displayed in the Open dialog box, double click the filename or type the filename in the File Name box and click the **Open** button.

6.7.1 Presentation Opening Options

PowerPoint can help you to open a presentation in a few different modes. You may choose these options by clicking the down-arrow on the right side of the Open button, as illustrated in Fig. 6.9. The *Open Read-Only* mode opens the presentation and allows you to modify it; however, you cannot write the changes back to the original presentation. The *Open as Copy* option makes a copy of the presentation and opens the copy for editing. The *Open and Repair* is used in some rare situations when a presentation has become corrupted and cannot be opened in the regular way.

6.8 EDITING AND FORMATTING SLIDES



After you create a presentation, you get one or more slides. Often you need to edit and format text on the slides and to add other objects, such as charts, Clip Art, organisation charts, audio or video media files, etc. Let us learn these skills.

6.8.1 Entering/Editing Text

Entering text in a slide is very simple. Depending the type of slide, the slide displays one or more text boxes to enter text, e.g., there are two text boxes on the slide shown in Fig. 6.2.

- To type text in any text box, click in the box and type the text. To enter multiline text, continue typing text and PowerPoint automatically wraps the text to the next line when the current line gets filled. You may press the **Enter** key to end the current line and start entering the next line of text.
- To edit existing text, use the usual key strokes, commands or mouse clicks to select text and edit/replace text.

6.8.2 Formatting Text and Paragraphs

When you enter text in text boxes, PowerPoint applies the default font, color and style for the text based on template, the type of the slide and *theme* in use. We will talk about theme in a moment. However, if you want to format the text on any slide in a different font, size or style, use the usual controls available on the Home tab on the Ribbon. (See Fig. 6.10.)

- The Font group contains controls to apply bold, italic, underline and shadow on the selected text. It also contains controls to choose the font and size. Besides choosing the size, you can use Increase Font Size and Decrease Font Size buttons to change the font size.
- If you prefer to use the Font dialog box to control the text formatting, click **Dialog Box Launcher** to open the Font dialog box. You may use the usual cut, copy and paste commands to cut, move or copy text.

Note Text formatting in PowerPoint works exactly as in Word. Refer to Sections 3.12 and 3.13 for details.

Like font, the default paragraph formatting you get for the text you enter in slides too depends on the slide type and the template in use.

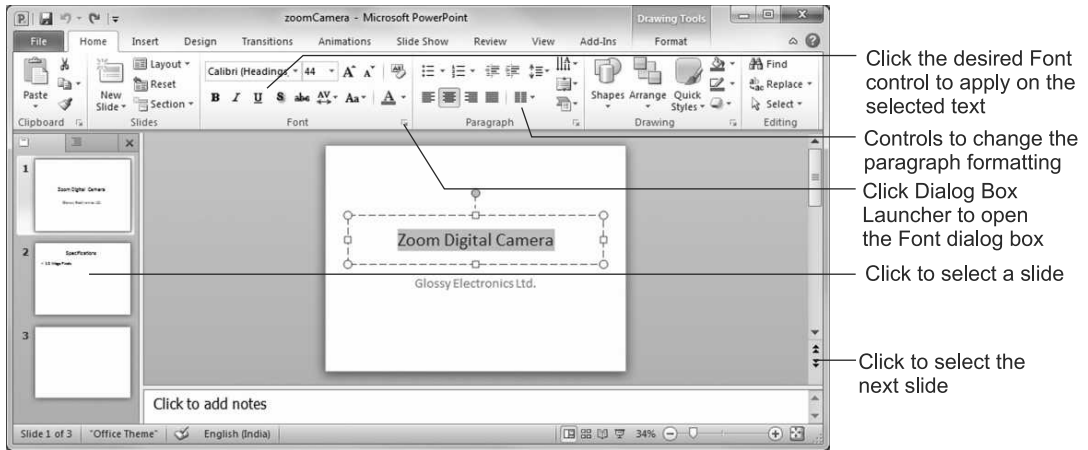



Fig. 6.10 Formatting text on a slide


- The easiest way to change the paragraph formatting is by using the corresponding control in the Paragraph group on the Home tab on the Ribbon. Some of the paragraph formatting commands are also available on the context menu that opens when you right click a paragraph.
- You can use the Bullet and Numbering to control bullets and numbering for the selected paragraph(s). The Paragraph group also has controls to change the line spacing and increase/decrease indent for the paragraphs. Other useful controls available on the Paragraph group are used to change text orientation (e.g., to show text at 90 degrees) and to convert text in two or more columns.

Note Paragraph formatting in PowerPoint works exactly as in Word; refer to Chapter 3 for details.

- After editing the current slide, if you want to move to the next slide, click  (Next Slide) located at the bottom of the vertical scrollbar. To select a new slide, you may also click the slide icon in the Slide pane on the left side of the PowerPoint window.

6.8.3 Inserting a Picture, Clip Art and Screenshot

A presentation is not effective nowadays without graphics. PowerPoint includes several useful tools in the Images group on the Insert tab to insert pictures, clip art and screenshot in a slide. (See Fig. 6.11.) To insert a pictures in a slide:

- Click  (the Picture button) on the Images group on the Insert tab, as illustrated in Fig. 6.11. PowerPoint displays the Insert Picture dialog box.
- Choose the picture that you want to insert in the dialog box and click the **Insert** button. PowerPoint inserts the picture on the slide. It also displays resizing handles on the pictures as well as the Picture Tools on the Ribbon as shown in Fig. 6.12.

You may use the picture tools to format the picture. The working of these tools is same as in Microsoft Word. Refer to Section 3.38 for details.

To insert a clip art in a slide, take the help of the Clip Art tool on the Images group. Similarly, you can use the Screenshot tool to insert the screen shot of any Windows application running on your computer. These tools work exactly as already described in Sections 3.38 and 3.39.

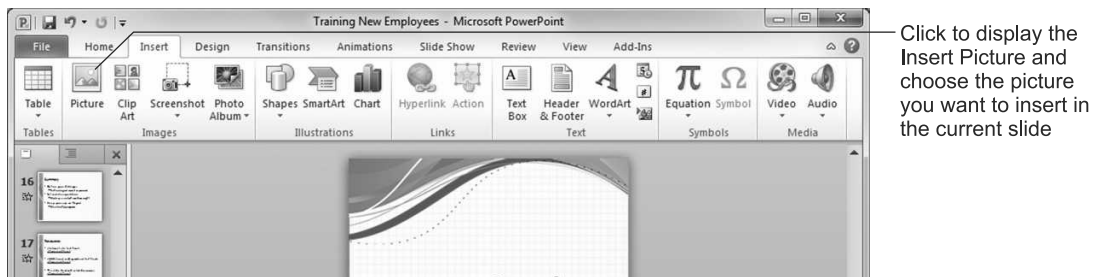


Fig. 6.11 *Picture, Clip Art, Screenshot and Photo Album tools on the Images group*

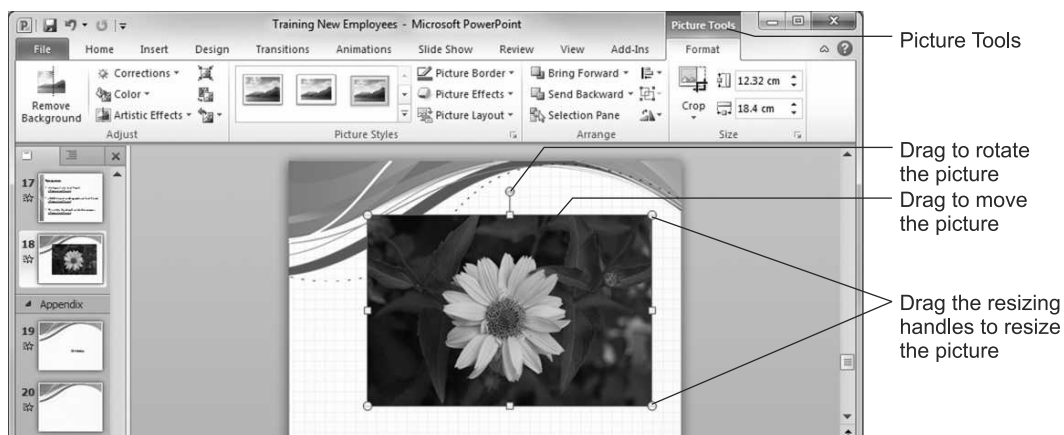


Fig. 6.12 *A picture inserted in a slide*

6.8.4 Inserting a Chart

PowerPoint includes the facility to create charts on a slide. Either you can insert a slide with a chart, or use the Chart tool on the Insert tab to insert a chart in an existing slide. The Chart tool inserts an Excel chart in the PowerPoint slide. Like an Excel chart, you choose the chart type, enter the data ranges, labels and legend, etc. You can easily resize or edit the chart. Let us learn to insert a chart.

- Click the slide in the left pane where you want to insert the chart. If required, you may insert a new slide. Next click the Chart tool on the Insert tab on the Illustration group (See Fig. 6.11.). If the new slide you have inserted (e.g., Title and Content) displays icon for the chart object, (See Fig. 6.5), you may click that icon to start the chart creation process.

PowerPoint displays the Insert Chart dialog box shown in Fig. 6.13 where you choose the type of chart you want to create. The various categories of charts you can insert are displayed in the left side of the dialog box.

- Click the icon for the desired chart type, click **OK** and PowerPoint opens an Excel worksheet with dummy data and uses this data to creates a sample chart on the slide, as shown in Fig. 6.14.

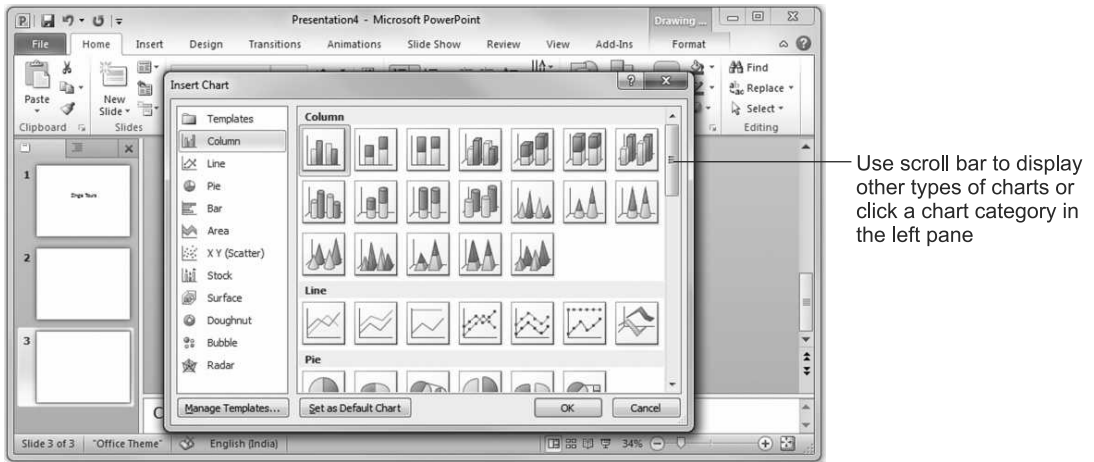


Fig. 6.13 Inserting a chart in a slide

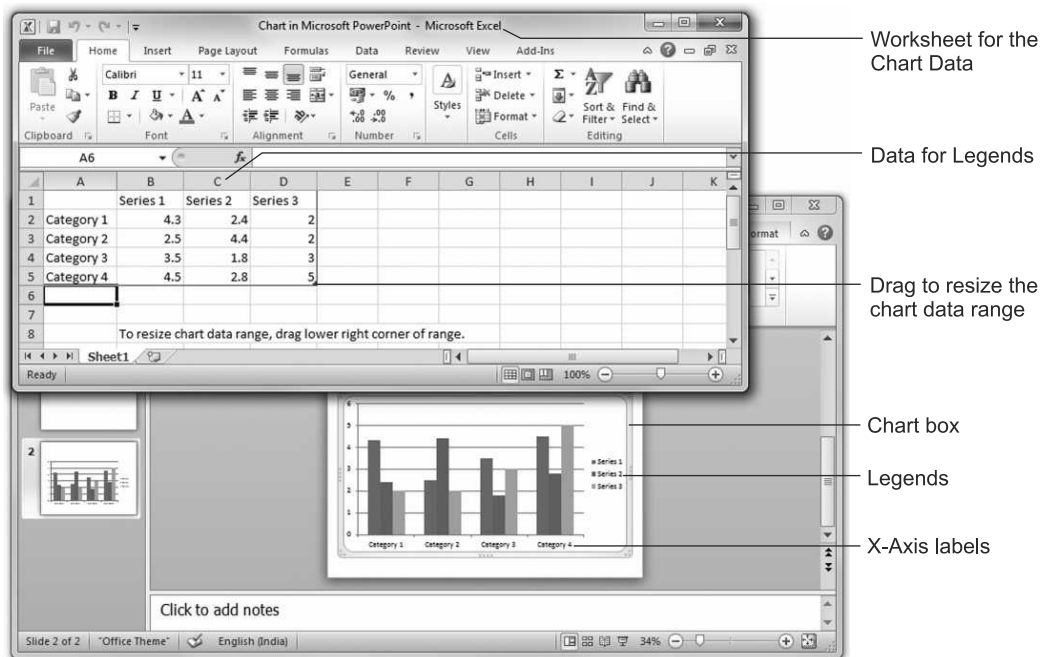


Fig. 6.14 Creating a chart

The sample data contains a few rows and columns, however, you can change the number of rows and columns you want to plot in your chart. To accomplish this, drag the bottom right corner of the chart data range, as illustrated in Fig. 6.14. Similarly, you can change the data in row 1 and column 1

to change the legends and X-axis title, respectively. As you change data in the datasheet, PowerPoint refreshes the chart based on the revised data. After you have entered the required data in the worksheet, you may close it by clicking the close (X) button located on the top right corner.

PowerPoint allows you to easily resize or reposition the chart on the slide. To resize the chart, drag the resizing handles located at each corner as well as the center of each side of the chart. Similarly, to reposition a chart on the slide, drag its border to the desired location, and when you release the mouse button, PowerPoint displays the chart at the new position.

- To edit the chart, e.g., to change the chart type, chart data, color scheme, etc., click anywhere in the chart area to put it in the edit mode. Figure 6.15 displays a chart in the edit mode. Notice that the Ribbon displays Chart Tools which contains various tools that you can use to edit the chart. For instance, you can click **Change Chart Type** to change the chart type or **Edit Data** to change the data for the chart.



Fig. 6.15 Editing a chart

Note The process of creating and updating a chart on the slide in PowerPoint is similar to that in Excel. For more details, refer to Chapter 4.

6.8.5 Inserting Shapes, Smart Art, WordArt, Text Box and Symbol

Like Word and Excel, PowerPoint includes several useful tools on the Insert tab to insert shapes, SmartArt, WordArt, text box and symbols. The process of inserting these objects on a slide is exactly the same as in a Word document or Excel worksheet. For instance, to insert a SmartArt that you can use to create an organization chart or process flow, click the SmartArt button, choose the type of SmartArt you want to use and click on the slide at the desired location. Then you can take the help of the SmartArt Tools displayed by PowerPoint on the Ribbon to reposition or format the inserted SmartArt. You can insert a WordArt, shape, text box, etc. in the same way. Refer to Sections 3.37 and 3.38 to learn more about how to insert these objects.



6.9 USING TABLES IN SLIDES

Tables find extensive use in slides as these help in presenting information in organized manner while taking less space. Compared to free running text, viewers find the information displayed in a table a little easy to understand. To create a table:

- Select or create a new slide. Then select the Insert tab and click the **Table** button on the tables group on the left, as illustrated in Fig. 6.16.

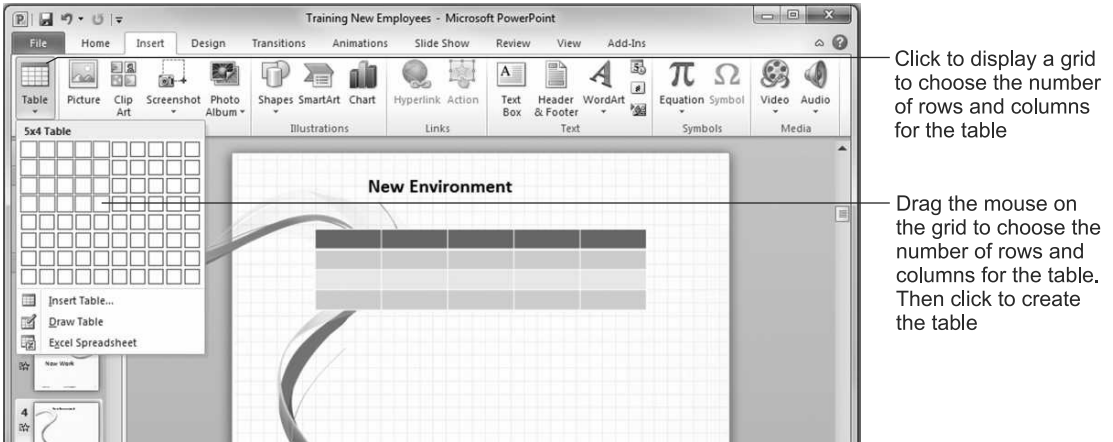


Fig. 6.16 Inserting a table

PowerPoint displays a grid below the Table button which is used to select the number of rows and column for the table you want to insert.

- As you drag mouse on the grid, PowerPoint highlights the grid and displays a preview of the table on the slide. When your table displays the required number of columns and rows, click the mouse to create the table on the slide.

PowerPoint displays the table on the slide. It also displays Table Tools on the Ribbon that you can use to change the table style, style options, borders, etc.

- You can enter the text in the table in the usual way; just click in any cell and type text. To move the cursor to the next cell, use the **Tab** key or click in the desired cell. Use the usual commands and tools to format the table text. Figure 6.17 displays a slide with a table with text entered in some cells.
- To resize the table, drag the resizing handles located at the corners of the table border. If you need to reposition the table on the slide, drag the border at any position except the resizing handles.
- To insert or delete rows or columns in the table, right click the table and choose the corresponding command.

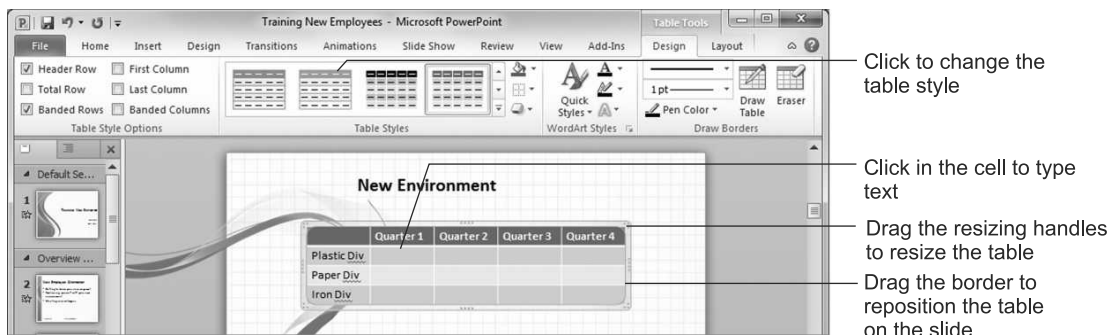


Fig. 6.17 A slide with table

6.10 INSERTING VIDEO AND AUDIO



To give a professional look to your presentation, you can include media clips in a slide. In other words, you can include audio and video files in your slides. PowerPoint can automatically play the media file when the slide is displayed or when you click a button.

- To insert a media file, click **Insert** to choose the Insert Tab. In the Media group on the right, click the **Video** button if you want to insert a video or **Audio** to insert an audio file.
- In either case, PowerPoint displays a dialog box to help you choose the file that you want to insert. Navigate to the folder that contains the file, choose the file and click **Insert** to insert it into the slide.

Like an inserted picture, you can resize and reposition the frame that will display the video. The inserted video and audio objects also display the play, pause, stop, forward and reverse buttons. Figure 6.18 displays a slide with audio and video objects.

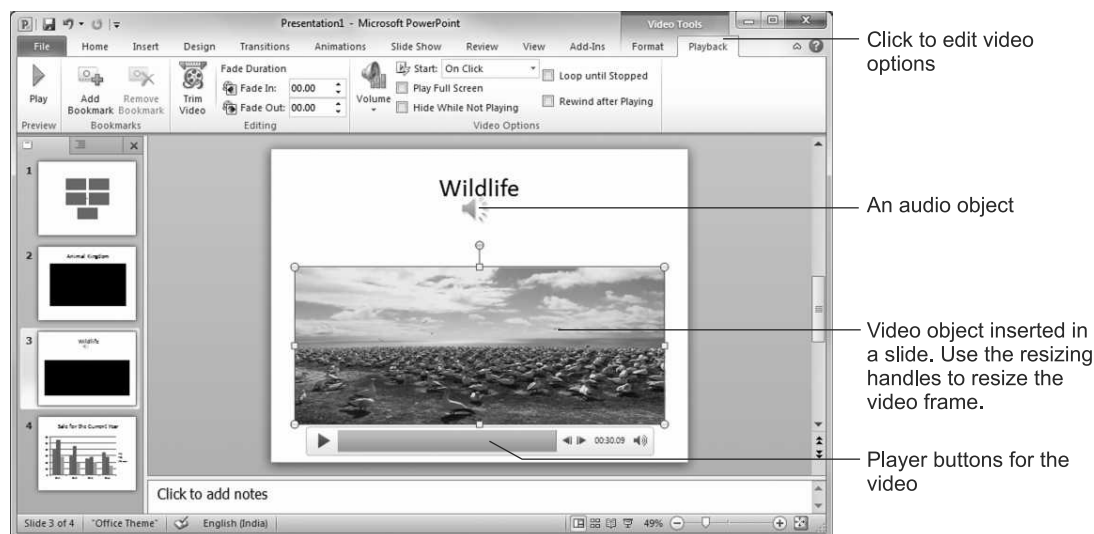


Fig. 6.18 Video and Audio objects inserted in a slide

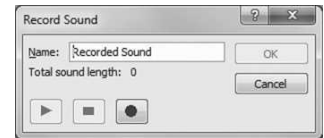
- To change the video options, you may use the Playback tab under Video Tools on the Ribbon (See Fig. 6.18). For instance, you can trim the video, play video in full screen, rewind after playing, control volume, etc.

PowerPoint can also help you play the video from a website, however, playing a video from the website should be avoided as it may not be able to play it during presentation if there is an issue with the Internet connection or the website.

6.10.1 Record Audio

If your computer has sound card and microphone, you can record a sound file. To do so

- Click the down pointing arrow below the **Audio** button on the Insert tab to display a menu and then click **Record Audio** on the menu. PowerPoint displays the Record Sound dialog box shown here.
- Click the red record button and start speaking. Click **OK** when you want to stop recording and PowerPoint creates an audio file and insert it on the slide.



6.11 DEFINING HEADER AND FOOTER



Like a Word document, you can define the header and/or footer for your presentation. You may include any text in the header/footer, e.g., name of the company or the title of the presentation. Besides, you may also include date or slide number in the header or footer. To define the header and footer:

- Click **Header and Footer** on the Text group on the Insert tab and PowerPoint displays the Header and Footer dialog box shown in Fig. 6.19.

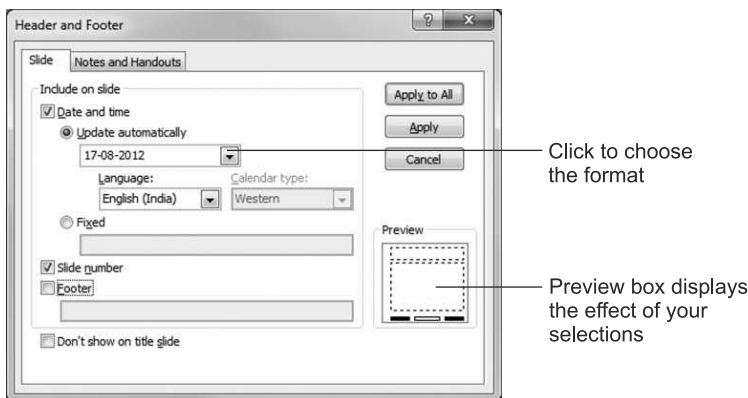


Fig. 6.19 Header and Footer dialog box

The dialog box enables you to choose the items that you want to include in the footer. Besides the Footer text, which is displayed in the center of the slide, you may include date (or Time/Date and time) and slide number in the footer. The default position for the date is on the left side of the footer and the slide number on the right. When you make a selection, PowerPoint highlights the corresponding position on the Preview box displayed on the Header and Footer dialog box.

- If you want the date to update automatically to reflect the date of the last update of the presentation, keep the **Update Automatically** radio button checked. In that case, you may choose the desired date, time or date and time format by clicking the down-pointing arrow in the date box, as illustrated in Fig. 6.19.
- On the other hand, if you want to display a fixed date, click the **Fixed** radio button and type the date. If you do not want the footer to be displayed on the title slide, check 'Don't show on title slide' check box.
- Finally, if you want to apply the footer on all slides, click **Apply To All** button, or click the **Apply** button to apply the footer to the current slide.

Figure 6.20 display date, footer text and slide number added to a slide. The Notes and Handouts page of the Header and Footer dialog box enables you to specify a separate header and footer for Notes and Handouts. Notes and Handouts are discussed later.

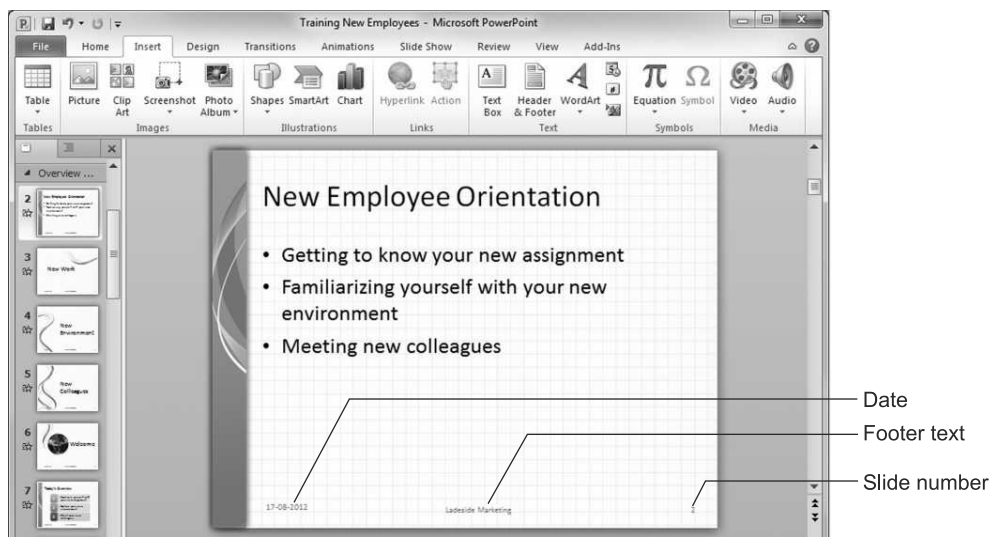


Fig. 6.20 Date, footer text and slide number added to a slide

6.12 SPELLING CHECKING AND CORRECTION



Normally the presentation is shown to important audience, therefore, you do not want to leave any spelling mistakes in your presentation. To help you create a presentation free of spelling mistakes, PowerPoint includes a useful spelling checking and correction tool. The working of the spelling checking and correction in PowerPoint is similar to that in Word and Excel. If 'Check spelling as you type' option is on, PowerPoint marks words that it cannot find in its dictionaries or custom dictionaries with red wavy underline as you type. If this option is off on your PC, you can spell check all slides by pressing **F7** or clicking the Spelling tool on the Review tab. Figure 6.21 displays spell check being performed on a presentation.

- The Spelling dialog box displays suggestions for the misspelled word. To accept a suggestion, click the desired word in the Suggestions list box and click the **Change** button.

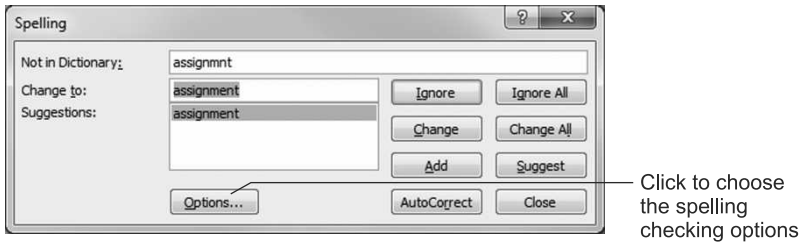


Fig. 6.21 Spelling checking

- If you want PowerPoint to automatically correct this word with the selected correction if you type the misspelled word in future, click **AutoCorrect**.
- To change the Spelling checking options, click the **Options** button to display the Proofing options. For more information on the use of spelling checking, refer to Chapter 3.

6.13 INSERTING COMMENTS IN A SLIDE



PowerPoint allows you to attach comments to any slide. Comments are useful to provide some remarks about a specific slide, e.g., who created the slide or the source for the chart used on the slide. The comments are displayed while the presentation is in the design mode; however, these are not displayed when the slide show is run or slides are printed.

- To add a comment to any slide, select that slide and click **New Comment** on the Review tab. Figure 6.22 displays the comment being added to a slide. You can type any length of text in the comment box. After finishing typing the comment, click outside the comment box to close the comment box.

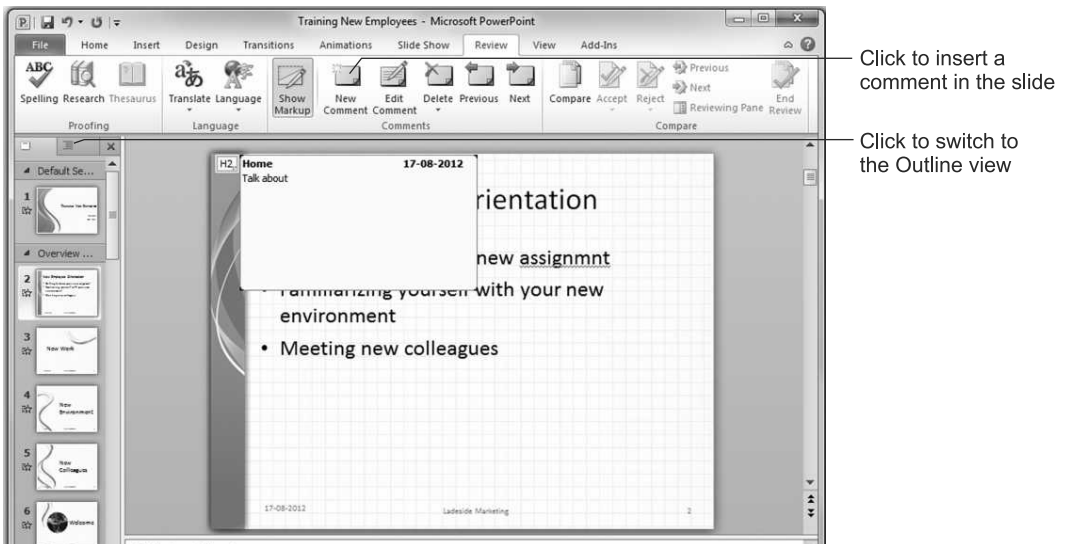


Fig. 6.22 Inserting Comments

PowerPoint displays a small comments icon in the top left corner of the slide with comments. When you hover mouse on the comments icon or click the comment icon, PowerPoint displays the comment. To edit or delete a comment, click the corresponding button on the Comments group on the Review tab.

6.14 POWERPOINT VIEWS



In PowerPoint, you can work in different views, such as Normal view, Slide Sorter view, Outline view and Notes Page view, Reading view, etc. You have already used the Normal view. While working in the Normal view, you can switch between Slides and Outline views by clicking the corresponding tab in the left pane (See Fig. 6.22). The Normal view (Slides/Outline) is useful to edit or format a single slide at a time. To select a new view, you can either use the View tab on the Ribbon (see Fig. 6.23) or click the view buttons located at on right side of the status bar.

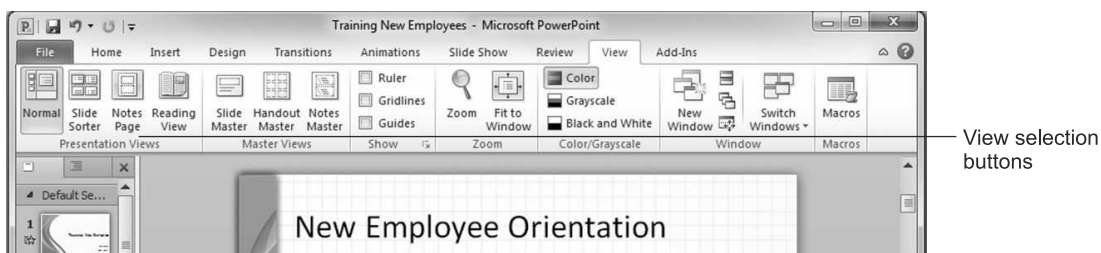


Fig. 6.23 Selecting PowerPoint views

6.14.1 Slide Sorter View

The Slide Sorter view displays miniature versions of your slides. In this view, you see several slides on the screen. The number of slides you see on the screen depends on the zoom percentage and the type of display you are using. In the Slide Sorter view, it is easy to organize the slides within the presentation. Figure 6.24 displays a presentation in the Slide Sorter view. For example, you can change the order of slides within the presentation. For instance, in Fig. 6.24, if you want to bring slide 3 to the 2nd position, just drag slide 3 to its new position. This view also helps you to delete, add, copy and paste slides.

6.14.2 Outline View

You already know PowerPoint supports the Outline View. Figure 6.25 displays a presentation in the Outline view. In this view, PowerPoint divides the window in two sections. The left section displays the text used on the slides and the right sections displays the currently selected slide. You can resize these sections. (To switch to the Outline view, click the Outline tab in the Normal view, as illustrated in Fig. 6.22.)

The Outline view is helpful when you want to enter or edit a lot of text in your slides. Like the Slide Sorter view, this view also helps you to insert, copy, paste and delete slides. You can also alter the sequence of slides in your presentation. To change the slide position, drag the slide icon (See Fig. 6.25).

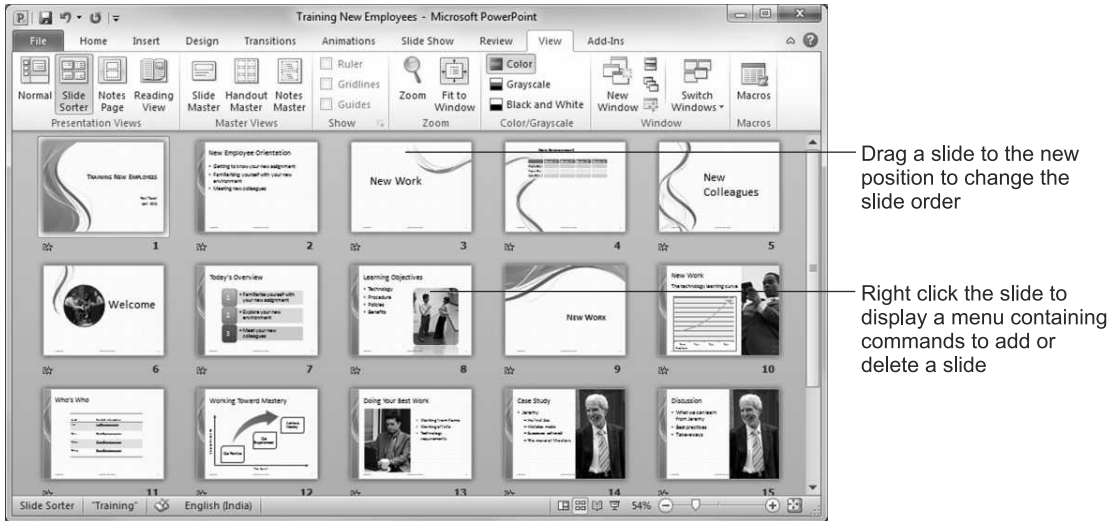


Fig. 6.24 Slide Sorter view

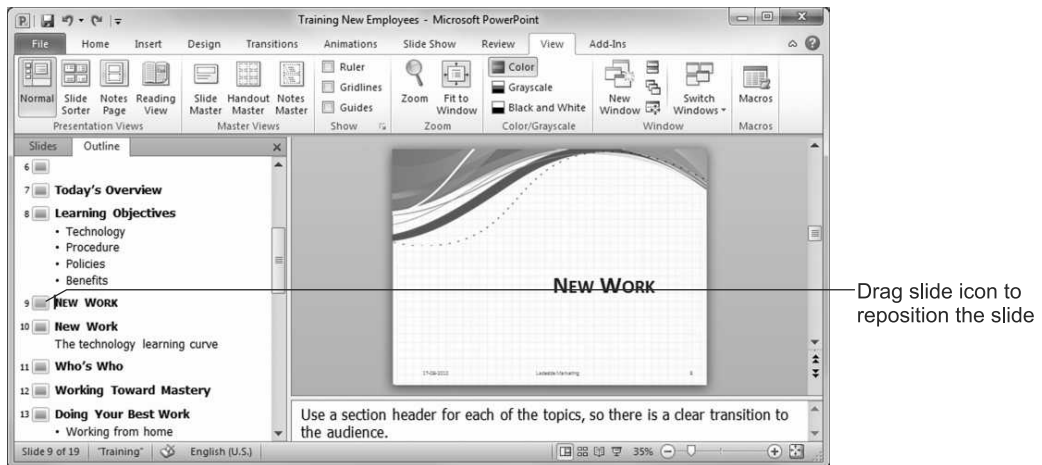


Fig. 6.25 Outline view

6.14.3 Notes Page View

In the Notes Page view, you see a page that includes the slide image at the top of the page and room for notes toward the bottom, as shown in Fig. 6.26. To select the Notes Page view, click **Notes Page** on the View tab. You can change the size and placement of both the slide image and the notes box by dragging the resizing handles. The Notes Page view enables you to type the speaker's notes in the bottom part of the page. The text entered in the notes page area is formatted using the normal editing commands. The notes page text is not displayed when you run a slide show. However, you can print the slides with speaker's notes.

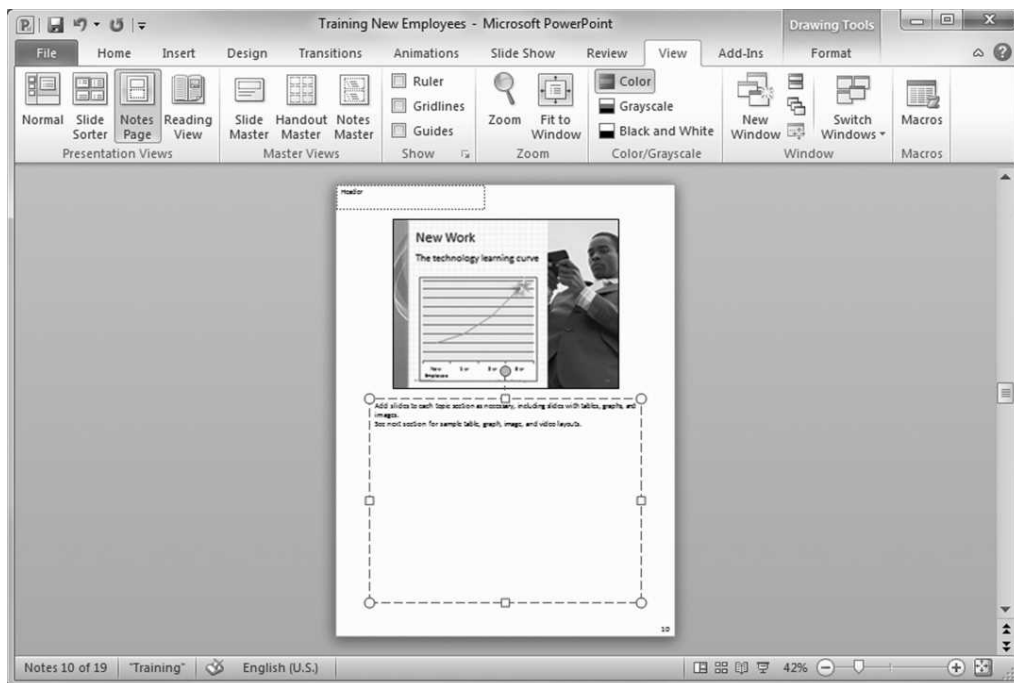


Fig. 6.26 Notes Page view

6.15 SLIDESHOW

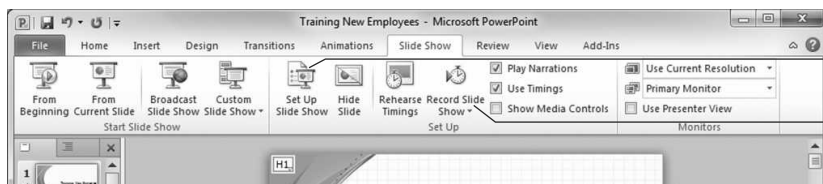


After you have created and edited your slides, you can run the slideshow. The slide show can show all or selected slides one after the other on the computer screen. PowerPoint displays the first slide on the screen and you can speak about the slide. When you want to show the next slide, click the mouse or press the PgDn or N key, and the new slide replaces the old slide. You may even configure a slide to automatically advance to the next slide after a specified time.

6.15.1 Running a Slide Show

To run a slide show for the current presentation, perform any of the following steps:

- Press the function key F5.
- Click the **Slide Show** button in the lower-left corner of the Status bar.
- Click the **From Beginning** or **From Current Slide** button on the Slide Show tab (See Fig. 6.27).



Click to display the Set Up Show dialog box

Click to record narrations

Fig. 6.27 Running the Slide Show

PowerPoint starts the presentation starting from the first slide, or the current slide, if you click **From Current Slide**. When PowerPoint runs the slide show, it uses the entire screen to display the slide.

- To advance to the next slide, click the mouse or press **PgDn** or **N**. If you want to display the previous slide, press **PgUp** or **P**.
- To cancel the slide show, press the **Esc** key. To display all shortcut keys that you can use during a slide show, press **F1**.

By default, the slide show displays all slides and waits for the mouse click or key pressing to advance to the next slide. However, you can control these as well as other aspects of the slide show through the Set Up Show dialog box that you can open by clicking **Set Up Slide Show**, as illustrated in Fig. 6.27. Figure 6.28 displays the Set Up Show dialog box. You can use *From* and *To* boxes in the Show Slides group to choose the slides for the slide show. You may also choose to advance slides manually or automatically through the Advance Slides group. If multiple monitors are connected to your computer, you may choose the monitor to display the slide show on.

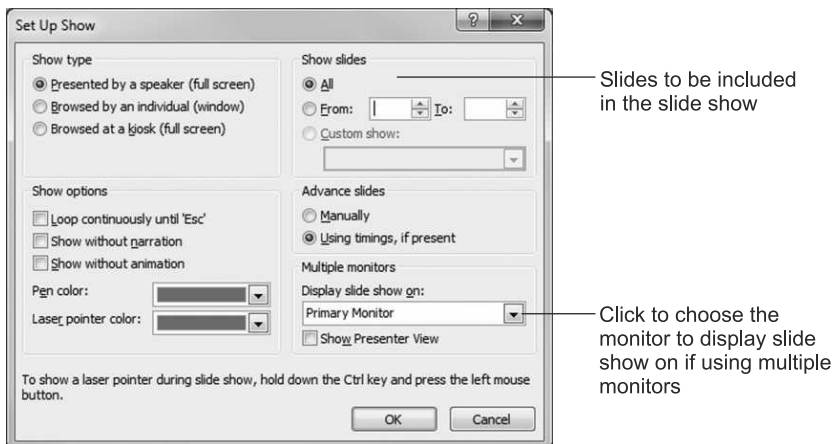


Fig. 6.28 Set Up Show dialog box

6.15.2 Using Pointer

While the slide show is running, you can use the mouse pointer as the pointer. You can also convert this pointer into an electronic pen or highlighter.

- While the slide show is running, right click anywhere on the slide to display a context menu shown in Fig. 6.29. Then click **Pointer Options** on the menu and click the **Pen** or **Highlighter** command. (The context menu also includes other commands to move forward or backward, or to jump to a specific slide.)

Now you can drag the mouse to highlight any area of the slide with the electronic pen or highlighter. Figure 6.29 displays the use of the highlighter and electronic pen on a slide. When you end the slide show, PowerPoint asks if you want to keep or discard the ink annotations.



Fig. 6.29 Using the pen and highlighter during the slide show

6.15.3 Automatically Advance Slides

If you want to automatically advance the slide after a specified time, you can record slide advance timings. The **Rehearse Timings** command on the Slide Show enables you to record the slide timings. In this mode, you run the slideshow, speak about the slide and manually advance to the next slide. Go through the entire presentation and PowerPoint keeps recording the time you spend on each slide. At the end of the slide show, if you like, PowerPoint can record these timings as slide advance timings. If you save the slide advance timings, PowerPoint displays these in the Slide Sorter view under each slide. PowerPoint will use these slide timings to automatically advance to the next slide during the slide show, unless you select the Manually option for Advance Slides in the Set Up Show dialog box (See Fig. 6.28).

6.15.4 Recording Narration

If your computer has sound card and microphone, you can record narration for one or more slides.

- To record narration, set up the microphone and click **Record Slide Show** in the Set Up group on the Slide Show tab (See Fig. 6.27).

PowerPoint displays the Record Slide Show dialog box shown in Fig. 6.30. The Record Slide Show dialog box can be used to record Slide and animation times, Narration and laser pointer movement or both. By default, it records both.



Fig. 6.30 Record Slide Show dialog box

- Click **Start Recording**. PowerPoint runs the slide show while you can talk about slides. You can manually advance the slide and talk about the next one. This way, you can talk about any or all slides. The narration gets saved with the slides.

Next time, when you run the slide show, the PC will reproduce the narration. If you did not uncheck “Slide and animation timings”, the slide timing also get saved. Recording narrations is useful to create a self-running slideshow at trade shows, kiosks and stores.

6.16 SLIDE TRANSITION EFFECTS



To give a professional look to your slide show, you can use various transition effects when the next slide replaces the previous slide. The transition effects supported by PowerPoint include cut, fade, push, wipe, split, reveal, random bars, cover, uncover, shape, flash, dissolve, checkerboard, blinds, ripple, honeycomb, door, rotate, etc. Moreover, for most transition effects, you can choose the effect option, e.g., for Push, you may choose to push the slide from top, left, right or bottom. To define the transition effect for any slide, perform the following steps:

- Open the presentation if required, select the Normal or Slide Sorter view and click the **Transition** tab.
- Click the slide for which you want to define the transition effect.
- Click the desired Transition button in the Transition to This Slide group, as shown in Fig. 6.31. To view additional transition effects, use the scroll bar or click **More**. To use no transition effect or to remove the current effect, click **None**.



Fig. 6.31 Defining Slide Transition Effect

- As you apply a transition effect, PowerPoint displays it on the slide. To review the effect, click **Preview** on the left on Transition tab.
- While PowerPoint provides so many transition effects, for a professional slide show, do not use too many transition effects. To maintain consistency in the presentation, it is recommended to use the same transition effect with all slides. To do so, choose a transition effect and click **Apply To All** in the Timing group, as illustrated in Fig. 6.31.

The Timing group on the Transition tab provides additional controls to fine-tune the applied transition. For example, you can choose to play a sound during transition through the Sound drop-down box. If you want PowerPoint to automatically advance to the next slide after a specified time, check the **After** check box and enter the required time in the After box in the Timing group.



6.17 APPLYING ANIMATION TO SLIDE OBJECTS

Most slides contains several objects. For example, a slide may have several bulleted points or it may have some text and one or more pictures, charts or other objects. While displaying a slide, PowerPoint can display all objects in one go or one at a time. The controls on the Animation tab help you to define animation effects for the slide, i.e., how the objects appear, move or disappear. To control animation:

- Select the slide and click the object you want to add animation to. For instance, in Fig. 6.32, the text box containing three bulleted paragraph is selected.
- Click the **Animations** tab. The Animations group displays the applied animation effect if any. To apply an animation effect, click **More** to display the available effects, as shown in Fig. 6.33.

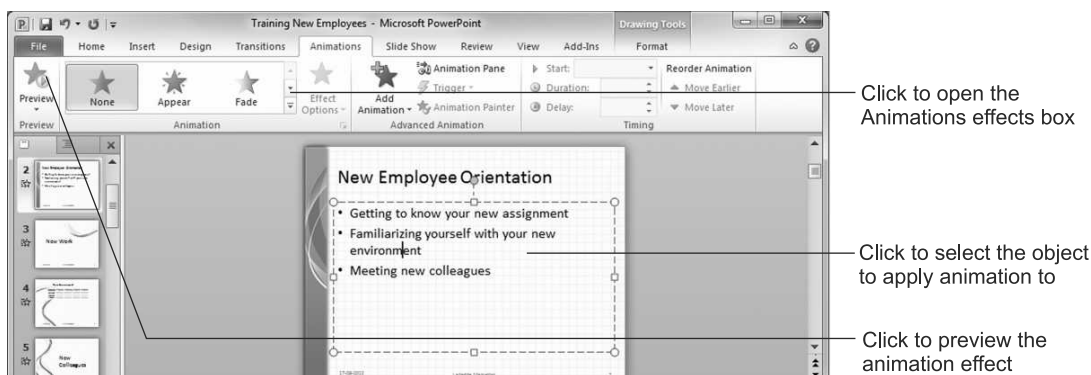


Fig. 6.32 Applying animation to a slide object

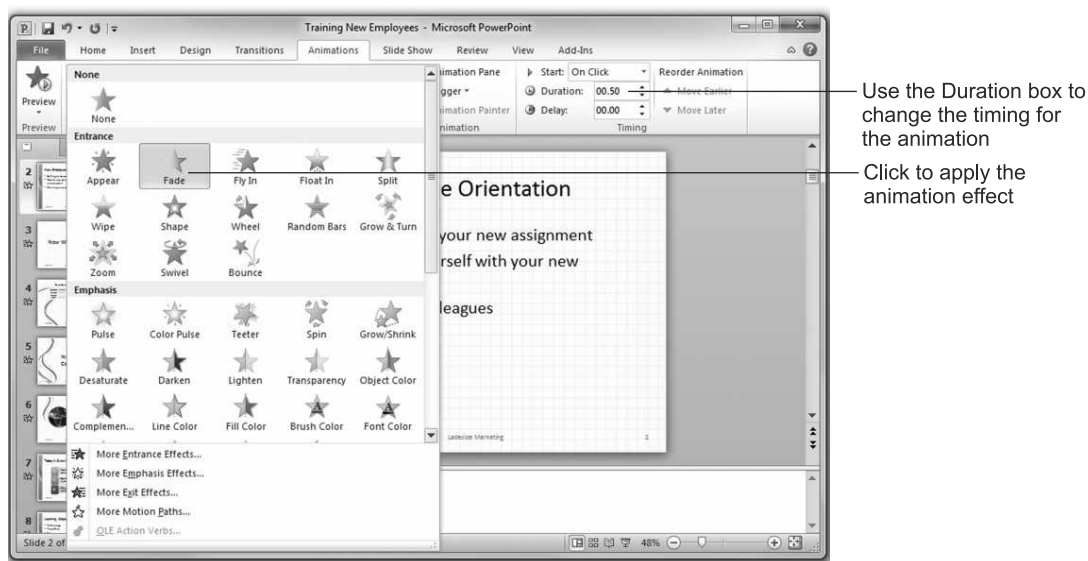


Fig. 6.33 Choosing the animation effect

- Click the desired animation effect. You may control the timing for the animation through the Duration spinner box in the Timing group.
- Click the **Preview** button located in the left of the Animation tab to preview the effect of the selected animation effect.
- You can customize the selected animation effect by choosing the effect option through the **Effect Options** button. For instance, for bulleted text, you may choose whether text appears from left, right, top or bottom.

6.17.1 Reorder Animation

After you have applied animation to objects, if required, you may change the sequence of the animation. For instance, consider the animation added to the three bulleted paragraphs in Fig. 6.32. During the slide show, the first paragraph will appear first, followed by the second and third. Assume that you want the second paragraph to appear before the first one. To accomplish this, you can reorder animation.

- Click the **Animations** tab and select the slide containing animated objects. PowerPoint displays animation sequence to the left of objects on the slide, as shown in Fig. 6.34.

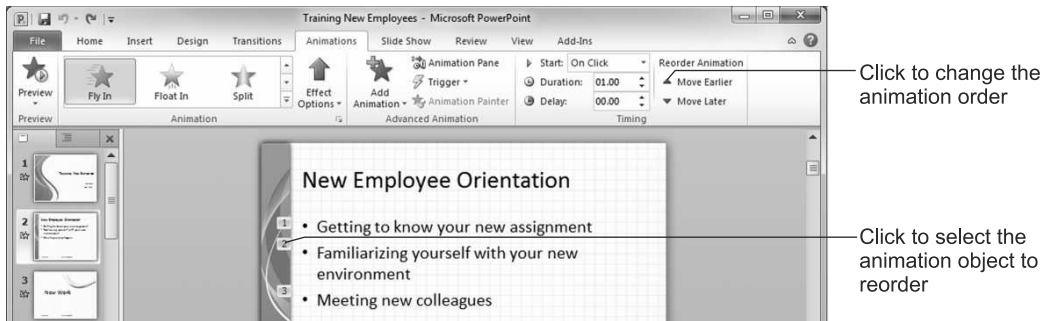


Fig. 6.34 Reorder animation

- Click “2” to the left of the second paragraph and click **Move Earlier** in the Reorder Animation group as illustrated in Fig. 6.34. Access rennumbers the objects.
- Click **Preview** on the Animation tab to verify the animation order.

6.18 CREATING A PRESENTATION BASED ON A PHOTO ALBUM



If you have a set of pictures in a folder, PowerPoint can create a presentation based on those pictures. It will put each picture in its own slide. Then you can apply the tools available in PowerPoint to make the slide show interesting. For instance, you can apply background to the slides or add captions for the pictures. To create a presentation based on pictures:

- Click the **Insert** tab and then click **Photo Album** in the Images group. PowerPoint displays the Photo Album dialog box shown in Fig. 6.35.
- Click **File/Disk** and PowerPoint displays Insert New Pictures dialog box. Navigate to the folder that contains pictures and select the pictures you want to insert in the presentation. Figure 6.36 displays the Insert New Pictures dialog box.

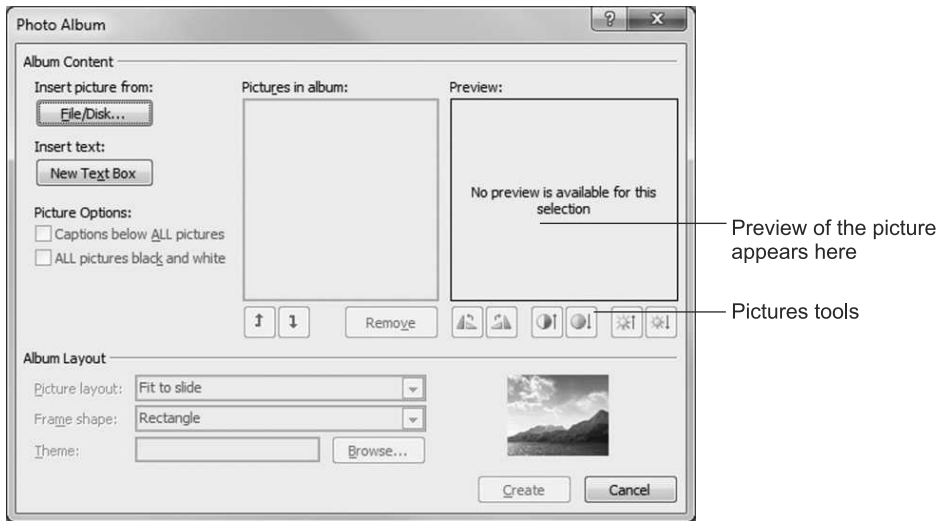


Fig. 6.35 Photo Album dialog box

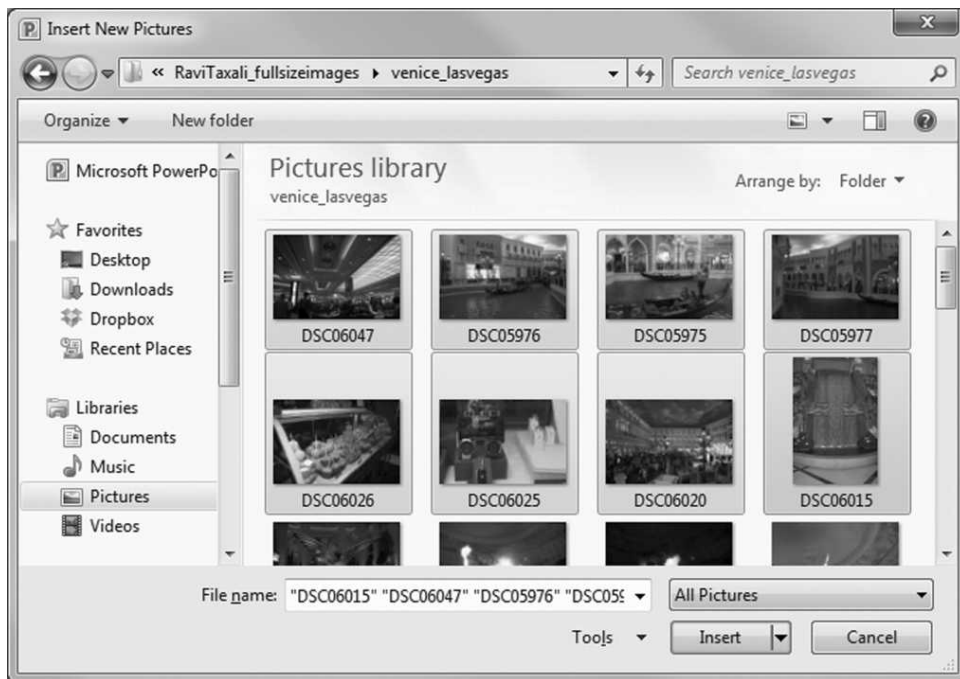


Fig. 6.36 A few pictures selected in the Insert New Pictures dialog box

- Click the **Insert** button in the Insert New Pictures dialog box. PowerPoint lists the selected pictures in the Photo Album dialog box. It also displays the preview of the pictures in the Preview box (See Fig. 6.35).

- For your convenience, the Photo Album dialog box contains a few useful tools to change the brightness, contrast and orientation of the picture. You can also remove one or more pictures and reorder them. You may add more pictures by clicking the **File/Disk** button. Finally, click **Create** to create the presentation based on the photos.

Figure 6.37 displays a photo album presentation based on photographs. Notice that it has added a title page for the album. You may edit this presentation in the usual way.



Fig. 6.37 A photo album presentation

6.19 CHANGING THE LOOK OF THE PRESENTATION



When you run your presentation, sometimes you may not like the look of slides. PowerPoint can help you to change the look of your presentation by applying a different theme, color scheme, fonts, effects and background styles. All these tools are available on the Design tab. Figure 6.38 illustrates the use of these tools.

- Hover the mouse on a theme in the Themes group to preview it on the slide. To view additional themes, click the **More** button. On clicking a theme, PowerPoint applies it on all slides.
- Each theme has a predefined set of colors, fonts and effects; however, you can change these if you prefer by using the corresponding control on the Design tab. Similarly, you can change the background style through the **Background Styles** control.

6.19.1 Using Slide Master

The Slide Master helps to give a distinct look to all slides. It controls the font and style for various text objects. It also controls the background color and other effects that PowerPoint applies to all slides. It also contains placeholders for the footer text. Thus, Slide Master gives you a central place to control

the look of your presentation. If you want to display a fixed text or graphics, say logo of your company or the picture of a product on all slides, you will find Slide Master useful.

- On the View tab, click **Slide Master** in the Master Views group and PowerPoint displays the Slide Master tab shown in Fig. 6.39.



Fig. 6.38 Design tools to change the look of a presentation

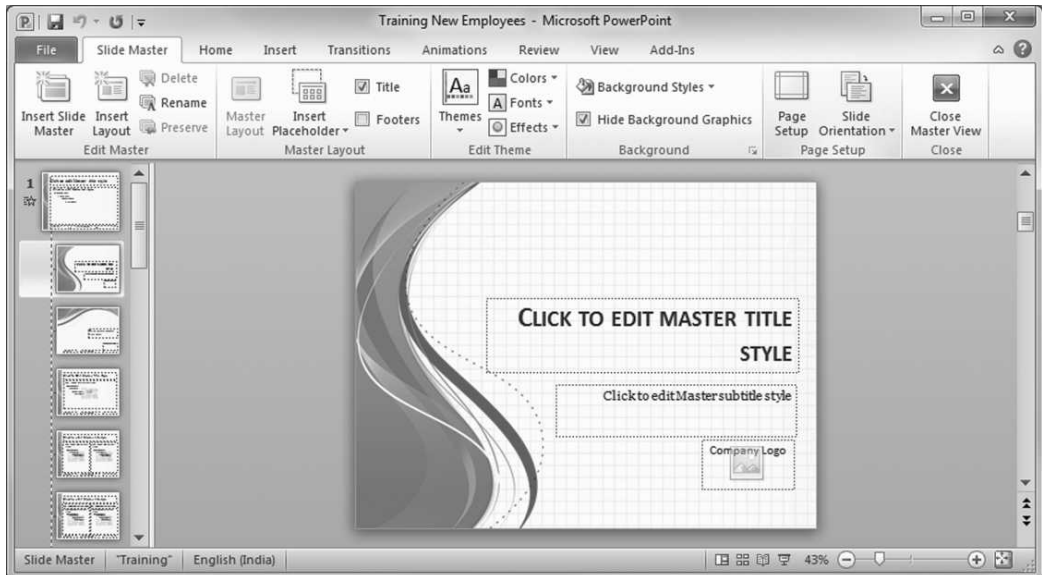


Fig. 6.39 Slide Master

- Now you can edit the master styles or drag to change the location of footer objects. To show a logo or picture on all slides, switch to the Insert tab and then click **Picture**. After inserting the picture, you can resize and reposition it on the Slide Master.



6.20 PRINTING A PRESENTATION

You can print your presentation in the following ways:

Slides	One slide is printed on each page.
Notes Page	Each page prints one slide and the speaker's notes.
Handouts	Two/three/four/six/nine slides can be printed on each page.
Outline View	Only the text in the slides is printed.

- To print your slides, press **Ctrl+P** or click **File** to switch to the Backstage view and then click **Print**. PowerPoint displays the preview of the current slide and print settings.
- Click the control shown in Fig. 6.40 to choose what to print, i.e., slides, notes, handouts or outline. Choose other settings, e.g., printer, slide range, collated, etc., in the usual way. Finally click the **Print** button to initiate the printing.

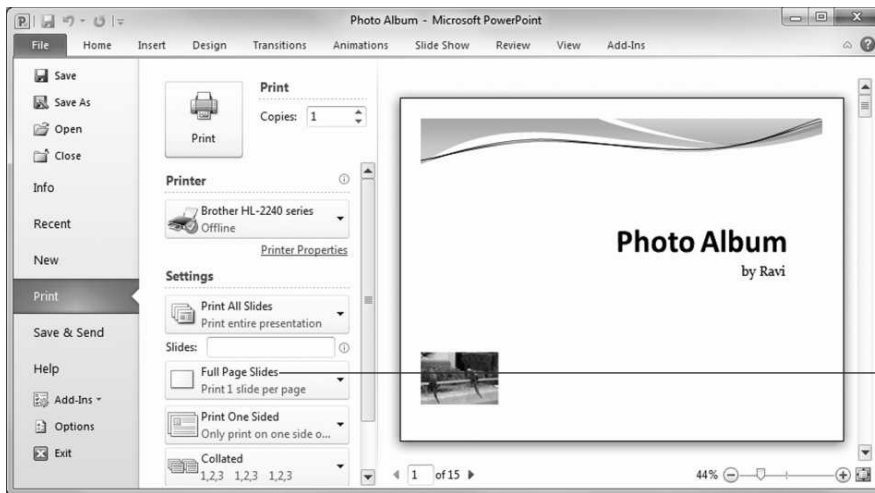


Fig. 6.40 *Printing a presentation*



6.21 SHARING A PRESENTATION

Besides displaying the slide show on a monitor or printing the presentation, you can share the presentation with other users in few different ways. Like other Microsoft Office program, you find the corresponding commands in **Save & Send** in the Backstage view, as shown in Fig. 6.41.

6.21.1 Sending a Presentation using E-mail

PowerPoint can send the presentation you are working on as an attachment using E-mail. It can also convert the presentation into a PDF/XPS document and send it as an attachment using E-mail

- Click the **File** tab and then click **Save & Send**.
- Click **Send Using E-mail** as shown in Fig. 6.41.

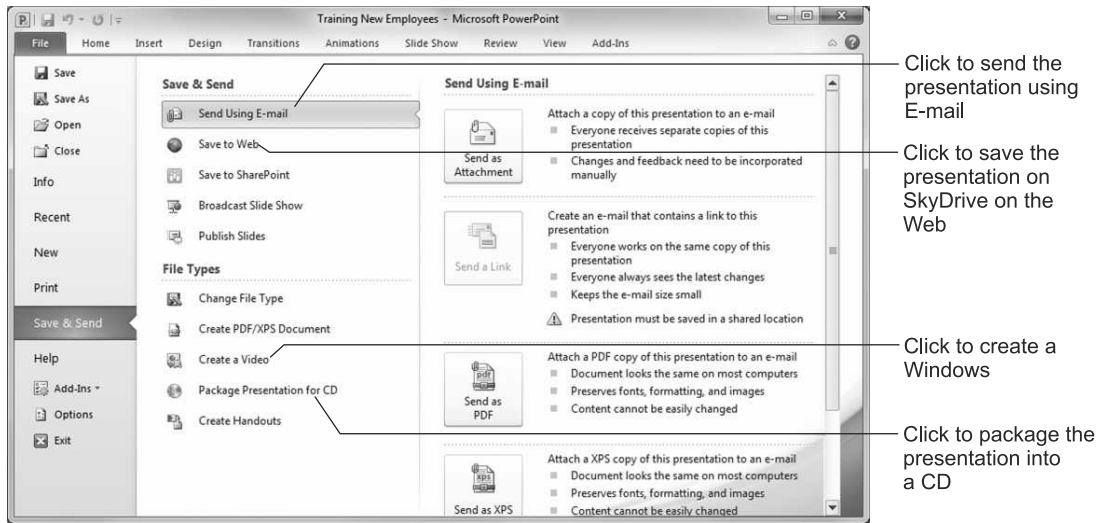


Fig. 6.41 *Save & Send a presentation*

- If you want to E-mail a copy of the presentation, click **Send as Attachment**. On the other hand, if you want to send the presentation as a PDF file, click **Send as PDF**. Similarly, click **Send as XPS**, if you to send the presentation as an XPS file.
- PowerPoint converts the presentation into PDF/XPS, if required, creates a message in the default E-mail client (e.g., Microsoft Outlook 2010), attaches the file and displays the message on the screen, as shown in Fig. 6.42.

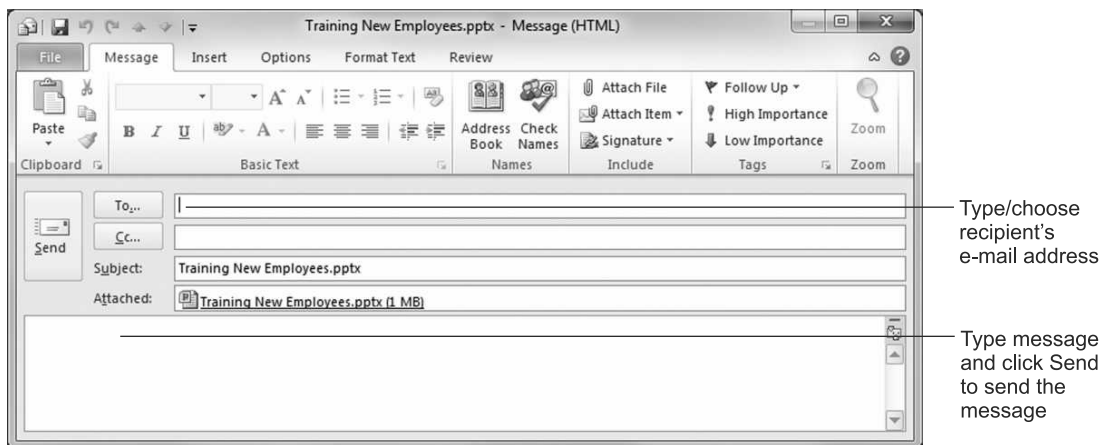


Fig. 6.42 *An E-mail message with a presentation as an attachment*

- Type recipient's e-mail address in the To box, type the message and click the **Send** button to send the e-mail.

6.21.2 Saving a Presentation as a Media File

You can save a presentation as a Windows Media File (.wmv) which can be played on Windows Media Player. You can share the media file with others through disk, Web or e-mail. To convert a presentation into the Windows Media File:

- In the Backstage view, click **Save & Send** and then click **Create a Video** (See Fig. 6.41).

PowerPoint displays options for the video quality. Depending on the intended use of the video, you may choose the low, medium or high quality option. You may also choose slide timings.

- After choosing the video options, click the **Create Video** button and PowerPoint displays the typical Save As dialog box. Choose the folder and type the file name in the dialog box and click the **Save** button.

PowerPoint creates a Windows Media File of the presentation. If your presentation is not very large, the file conversion and creation processes should be complete in few seconds. You may double click the created media file to run it. You may share this file in a disk, flash memory or through e-mail.

6.21.3 Package Presentation in a CD

If you want to distribute your presentation in a CD, PowerPoint can help you create the CD. Assuming that the presentation that you want to package into the CD is open, follow these steps:

- Click the **File** tab to open the Backstage view and then click **Save & Send**.
- Click **Package Presentation for CD** under File Types as shown in Fig. 6.41. Then click the **Package for CD** button.

PowerPoint displays the Package for CD dialog box shown in Fig. 6.43.

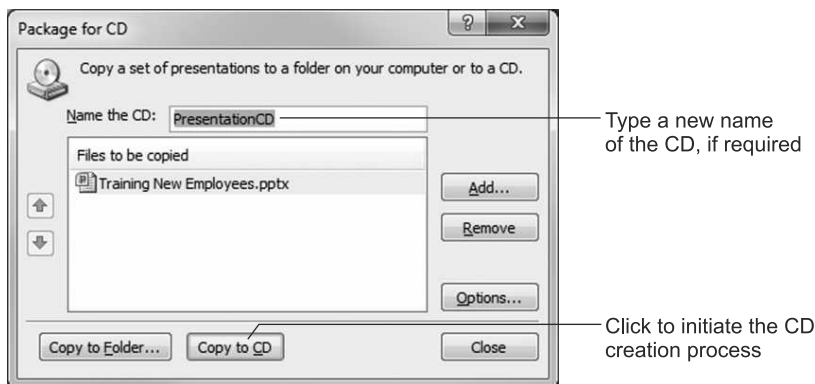
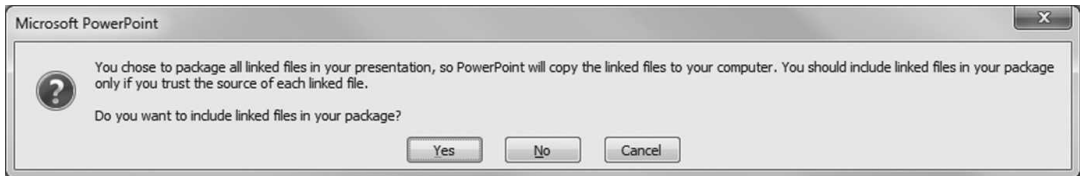


Fig. 6.43 Package for CD dialog box

- The dialog box already includes the current presentation in the *Files to be copied* list. You may add additional presentation files, if required by clicking the **Add** button.
- PowerPoint assigns a default name for the CD, which you can change. Finally, click **Copy to CD** to initiate the CD creation process. PowerPoint displays a confirmation message box shown below.



- Click **Yes** to ask PowerPoint continue with the CD creation process and follow the prompts.

6.21.4 Saving a Presentation on the Web

If you want to access a presentation on a different computer, you can save it on the web. Microsoft provides web storage space on SkyDrive, also known as Windows Live SkyDrive. However, to use SkyDrive, you need a Windows Live ID, which you can have it for free, and the Internet access. After you have saved the presentation on SkyDrive, you can access it from nay computer connected to the Internet, share it with anyone or even make it public. To save the current presentation on SkyDrive:

- Click the **File** tab to open the Backstage view and then click **Save & Send**.
- Click **Save to Web** (See Fig. 6.41) and click **Sign In** in the right pane. PowerPoint displays the Connecting to docs.live.net dialog box shown in Fig. 6.44.



Fig. 6.44 Connecting to docs.live.net dialog box

- Type the E-mail address, password for your Windows Live ID and click **OK**. If Windows Live validates the entered credentials, it saves the file on the SkyDrive.
- Now you can access the saved file from any computer connected to the Internet after logging in to your Windows Live account. You can even open and run the presentation on SkyDrive. Figure 6.45 displays a presentation open on SkyDrive.

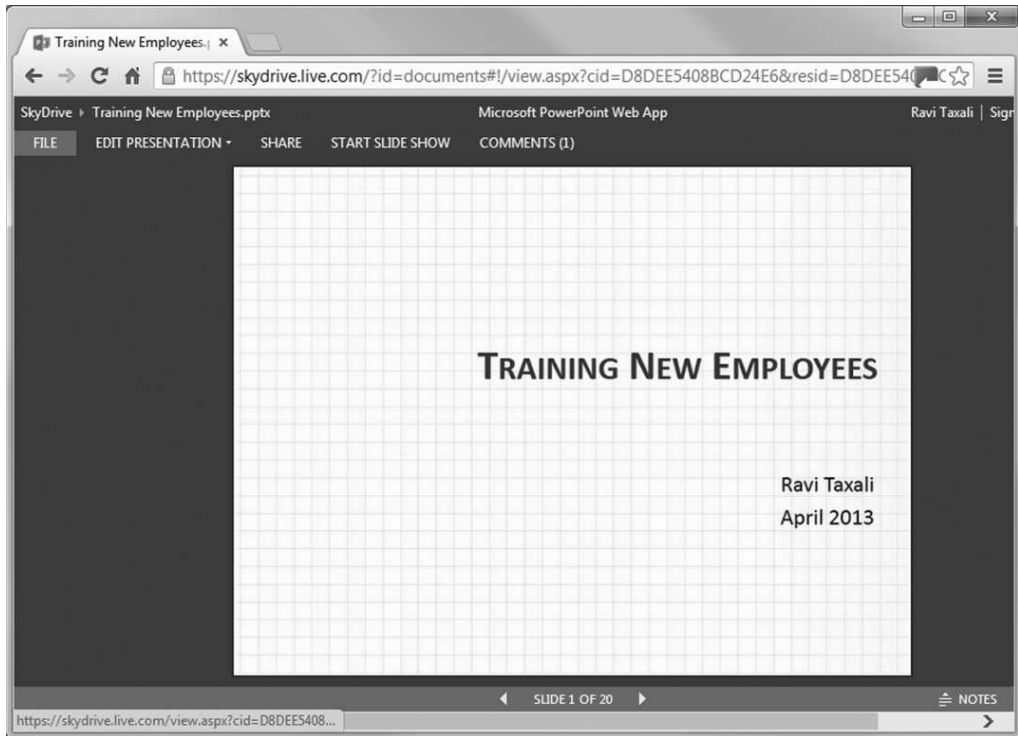


Fig. 6.45 A PowerPoint presentation open on SkyDrive

7

TALLY

CHAPTER OBJECTIVES

In this chapter, we will discuss the following topics:

- ◆ *Introduction to Computerized Accounting and Tally*
- ◆ *Downloading Tally*
- ◆ *Starting Tally*
- ◆ *Creating a Company*
- ◆ *Creating Accounts Information Masters: Groups and Ledgers*
- ◆ *Voucher: Voucher Types and Configuring Voucher Entry*
- ◆ *Entering Accounting Vouchers*
- ◆ *Creating Inventory Information Masters: Stock Groups, Categories, Units, Items and Voucher Types*
- ◆ *Entering Inventory Vouchers*
- ◆ *Reports*
- ◆ *Using Tally to Maintain Payroll*
- ◆ *Maintaining Multiple Companies*
- ◆ *Backup and Restore*
- ◆ *Split Company Data*
- ◆ *Multi-Lingual Capabilities*
- ◆ *Migrating Data from Earlier Versions of Tally*
- ◆ *Remote Access*

7.1 INTRODUCTION TO COMPUTERIZED ACCOUNTING AND TALLY



Accounting is one of the most important functions of a business, as it communicates important financial information about the business in easy to understand reports and graphs to users, such as managers, shareholders, public and government. However, to provide accurate financial information, accounting needs to record and process all types of business transactions that result in transfer of money or goods. These transactions include sales, purchase, payments, deposits, payroll, movement of goods, etc. A large business may do thousands or even millions of transactions in a year. Recording, analysing and processing so many transactions is a very time consuming process. In the past, large businesses used to take months to prepare their Balance Sheet or Profit and Loss Account Statement. However, computerized accounting, which has been one of the most common applications of computers, has made the life of accountants easy. Computerized accounting helps to enter and maintain business transactions with the help of a computer program. The computer program helps to enter and maintain all data through easy-to-use user-interface. All information entered in the computerized accounting system is integrated, which helps to generate various types of reports with ease. As the computer program performs all calculations quickly, the reports are accurate and fast. The quick and accurate reports help business managers to take timely decisions.

To do computerized accounting, several application programs are available, Tally being one of the most popular with accountants of India. First launched in 1986, Tally has improved and become more powerful and user-friendly with each new release. Tally is developed and marketed by Tally Solutions Pvt. Ltd. To learn more about the company and the products and services offered by Tally Solutions, visit its website at www.tallysolutions.com. As of January 2014, the latest version of the Tally software is Tally.ERP 9, available in two editions: Silver and Gold to cater to different types and sizes of the business. Both these editions of Tally.ERP 9 have the same features, though these differ in scalability. For example, the Silver edition supports a single user whereas the Gold supports unlimited concurrent users. Besides these, Tally.ERP 9 is also available in the Auditor's edition. Tally.ERP 9 has capabilities to completely handle TDS (Tax Deduction at Source) and excise for manufacturing businesses. Tally.ERP 9 also has remote access capability, that lets authorized users to access the Tally data from a computer located at a remote location using Internet. All these features make Tally.ERP 9 an ideal choice for the accounting requirements for almost any kind and size of business.

Though Tally.ERP 9 is currently the most popular version, earlier versions such as Tally 8.1, 7.2 and Tally 6.3 are also in use. Tally.ERP 9 can help you to migrate data from earlier versions to the current version. In this book, we shall discuss Tally.ERP 9 running on a Windows 7 PC. If you are using an earlier version of Tally, some of the commands or features discussed in the text may not be applicable or behave in a different way, and the screens you would get may be different from those shown in the book. Hereafter, any reference to Tally would imply to Tally.ERP 9.

7.2 DOWNLOADING TALLY



Tally is available for purchase in stores. If you prefer, you may download it for free from Tally Solution's website. The free download version works in the Educational mode. In this mode, Tally has almost the same functionality like one with the regular paid license, except that you are not able to enter vouchers for all dates of the month. The Educational mode of Tally is particularly helpful for students, as they can learn and gain experience with Tally without buying the License. The Educational mode even

allows unrestricted access to the accounting data of the companies that are online through login as Remote Tally.Net user. The Educational license may be converted anytime into any of the available regular unrestricted licenses by making the required payment.

- To download the Tally.ERP 9 software, visit the **www.tallysolutions.com** website and click the **Download link**. This takes you to the Download page where you would find the Download Centre button near the bottom of the page.
- On clicking the Download Centre button, it displays another webpage that lists all Tally downloads. Your screen should look similar to that in Fig. 7.1.

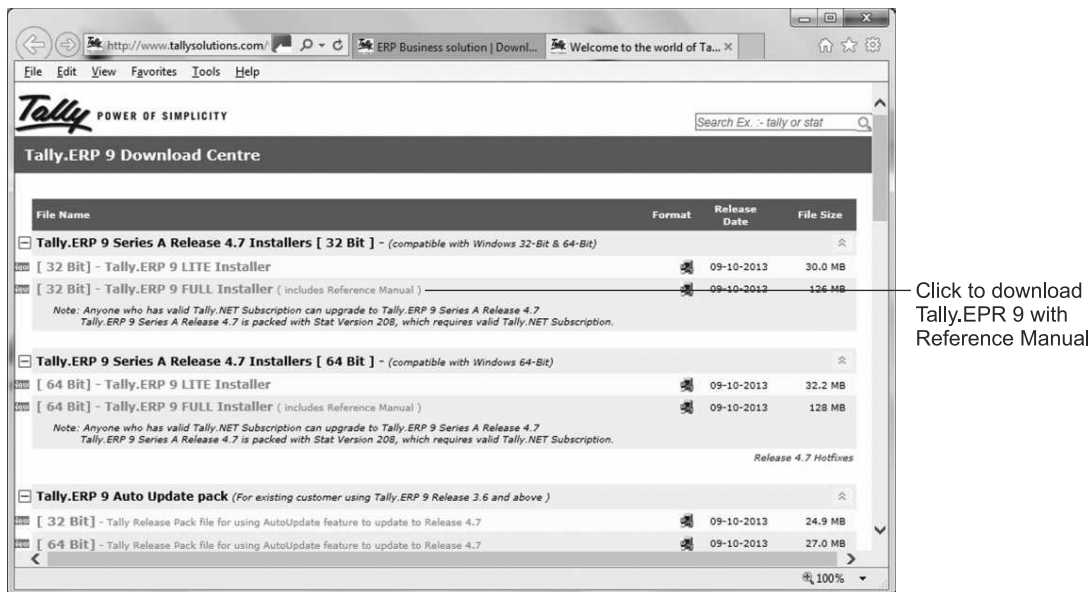


Fig. 7.1 Tally.ERP 9 Download Center

- You should download the latest release that comes with Reference manual. Click the corresponding link, usually located at the top of the list to start the download. (Your browser may display a warning message that this type of file may harm the computer. In that case, you need to choose Save, OK or Yes to start the download.)
- After the download is complete, run the downloaded file and follow the instructions. During the installation process, Tally may ask you to put the Windows Operating System in the CD-ROM drive. Tally installation is simple and quick, and is complete within a few minutes. You may install Tally for single or multi-user operation. During the installation, you also select the default country and the startup language.

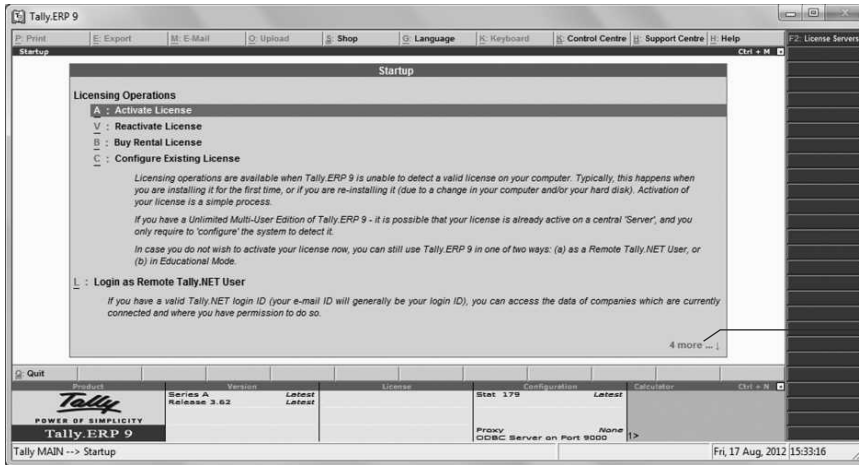
When the installation is over, you would find the Tally icon on your desktop and the Tally program in the Windows Start menu. The Tally icon looks like





7.3 STARTING TALLY

The Tally program is started like any other Windows program. That is, you may start the Tally program by double clicking the Tally icon on the desktop or choosing it from the Quick Launch/taskbar or Windows's Start menu. On starting Tally, you get the Startup screen shown in Fig. 7.2.



Click to see more Licensing options

Fig. 7.2 Tally Startup screen

The Startup screen lets you to manage you license. If you do not have Tally license, you may use Tally by either logging as *Remote Tally.NET* user or work in the *Educational* mode. If you choose to login as Tally.Net user, you need to enter valid username and password in the login screen displayed by Tally, shown in Fig. 7.3.

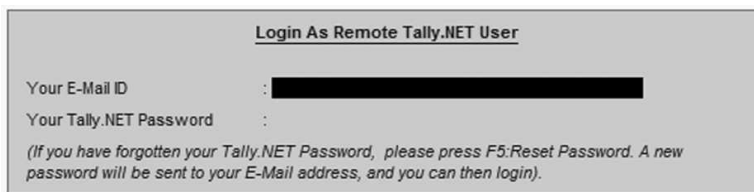


Fig. 7.3 Tally Remote Login screen

To work in the educational mode, use the arrow keys or click **more** at the bottom right corner of the Tally Startup screen and select **W: Work in Educational Mode** and then press the **Enter** key. Tally displays two options: *Silver Edition Mode (Single user)* and *Gold Edition Mode (Unlimited Multi-User)*. You may select any mode and press **Enter** to start working in Tally. If you are working in Tally where no data has been entered, you should see a screen similar to that shown in Fig. 7.4. If the Tally installation contains any data, it automatically loads it.

The Tally screen displays a horizontal button bar at the top and a vertical button bar on the right-hand side. These bars contain buttons to perform common tasks in Tally, e.g., Print, Export, E-Mail, change keyboard, change language, Tally help, etc. Some of these buttons may not be available at all

times. Tally automatically shows, hides, enables or disables these buttons depending on the activity you are doing. The vertical button bar, located on the right also contains buttons to perform common tasks, such as to change the current date or period, select or close a company and change configuration. Besides clicking these buttons with mouse, you may also use the shortcut keys displayed on the buttons. Notice that Tally displays shortcut keys, such as **G**, **K**, and **F12** on the buttons. To activate a button, you press the corresponding function key (e.g., F12), the key with Alt (e.g., **G**) or the key with the Ctrl (e.g., **K**). Remember that when Tally shows a key on a button with single underline (e.g., **G**), you need to press the key with the Alt key to activate that button. Similarly, when a key is shown with double underline (e.g., **K**), you need to press it with the Ctrl key to use the function shown on that button.



Fig. 7.4 Tally Startup screen

At the bottom of the screen, Tally displays an Information Panel that contains links to get information about the Tally version, license and configuration in use. On the right side of the Information Panel is a useful Calculator pane that you may use to do simple calculations. If you want to close the Information Panel, click the **Close** button (X) located in its top right corner. After you have closed the Information panel, if you need to display the Calculator pane, press **Ctrl+N**.

The remaining area in the middle of the Tally screen is called the *Main Area*, also known as *Gateway of Tally*. This area is divided into two parts—the left hand side area provides details about the current date, current period, selected company, etc., and the right-hand side area displays Company Information and helps you to perform various functions, such as select or create a company, create ledgers and enter vouchers.

7.4 CREATING A COMPANY



If you have done a fresh installation of Tally, first task you need to do is to create a company. During this process, you define the name, address and other details for the company whose accounts you want to prepare using Tally. Tally can maintain accounts of more than one company, therefore, if required, you may create more than one company. If you create multiple companies, Tally lets you choose the

company you want to work on. Creating multiple companies is helpful if a company maintains separate sets of accounts for its branches or divisions. Let us create a company.

- Choose the Create Company option in the Company Info menu (See Fig. 7.4). To choose this option, you may double click *Create Company*, use arrow keys to highlight *Create Company* and press **Enter**, or press **C**, the hot-key for the Create Company option. Notice that Tally displays the hot-key in bold letters.

Note If the Tally program already contains a company, to create another company, press **Alt+F3** to display the Company Info box and then choose the Create Company command.

On choosing the Create Company command, Tally displays a screen to enter details for the company you want to create, as shown in Fig. 7.5.

Fig. 7.5 Creating a company

- Type the company name and press the **Tab** or **Enter** key to move the cursor to *Mailing Name*. By default, mailing name is the same as the Company you have created.

Note Tally uses the default directory to store the company information. Normally you should not change the directory. If you need to change the directory, press the **Backspace** key when the cursor is in the Name field to move the cursor to the Directory field.

- Next, enter the company's mailing address. The company address is automatically picked up by certain reports, such as Balance sheet and Statement of Accounts. Next, press **Tab** to move the cursor to the Statutory Compliance field.
- Tally displays the list of countries to choose for *Statutory Compliance* from in the right-hand side of the screen, as shown in Fig. 7.6. For an Indian company, you must choose India. To choose the country, highlight it and then press **Enter**. When you choose a country for Statutory Compliance, Tally selects the country specific features, base currency and currency related formatting.
- On choosing India from the list of countries for Statutory Compliance, Tally displays a list of States to choose a State. To choose a state, click the desired State and press **Enter**, or double click the desired State. On choosing a State, Tally automatically selects any features or rules particularly

applicable to that State. After choosing the State, enter other details, such as PIN code, Telephone Number, Mobile phone number and Email. All these details are optional. If you do not have any of these details, press the **Enter** key to move the cursor to the next field. You may easily enter these later.

Fig. 7.6 Choosing Statutory Compliance

Note To move forward to the next field box, press **Enter** or **Tab**, or click in the desired box. To go back to the previous field, press **Shift+Tab** or click in the desired box.

7.4.1 Entering Company Details

In the Company Details section in the top part of the right pane, we provide some accounting details for the company. These details include the currency symbol, type of accounts, and the starting date for the financial year and account books.

- In the Currency field, Tally displays the default currency symbol, which is ₹ (Rs.) for Indian setup. Normally, you do not need to change the currency symbol. Press **Enter** to move the cursor to the *Maintain* field.
- Tally displays two options for the types of accounts you want to maintain. These options are *Accounts Only* or *Accounts with Inventory*. The default option is *Accounts with Inventory*. Choose *Accounts Only* if you need to enter only finance related information, otherwise choose *Accounts with Inventory*.
- Tally fills the default dates in the *Financial Year from* and *Books beginning from* fields. By default both dates are the same. However, if required, you may change any or both dates.

7.4.2 Security Control

Every company wants to maintain the confidentiality of its financial information and does not want it to land in the hands of unauthorized persons. To help achieve this objective, Tally has a built-in security control system – TallyVault, which can *encrypt* the data. The encrypted data makes it almost impossible to get any meaningful information. If you decide to use TallyVault, you need to provide a password and retype the password.

Caution If you forget the TallyVault password, you will not be able to recover the company data.

The *Use Security Control* option, whose default value is No, is used to allow access to the company data through the password-protected system. You may also choose to enable *Tally Audit* features and disallow opening of Tally in educational mode. These are advanced features and should be avoided by the beginners. The security features can easily be turned on later.

7.4.3 Base Currency Information

The Base Currency Information section located at the bottom of the Company Creation screen displays options related to the currency of the selected country. The default options are good for most situations; however, you may change any option as per the requirement of the company. For instance, you may like to change the number of decimals or show the amounts in *millions*.

7.4.4 Saving the Company

After you have entered the required details in the Company Creation screen, to save the company, press **Ctrl+A** keys. Tally starts the processing of saving the company details and creating the company. During this process, it imports the *Statutory Masters* based on your selections. During the import process, Tally displays a progress bar, which automatically closes when it reaches the 100% mark and the Tally screen displays the company you have created under the *List of Companies* in the left pane and *Gateway of Tally* in the right, as shown in Fig. 7.7. Tally also displays details about the functions keys you may use to perform common tasks, e.g., F2 to change the current date or Alt+F3 to change the Company information.

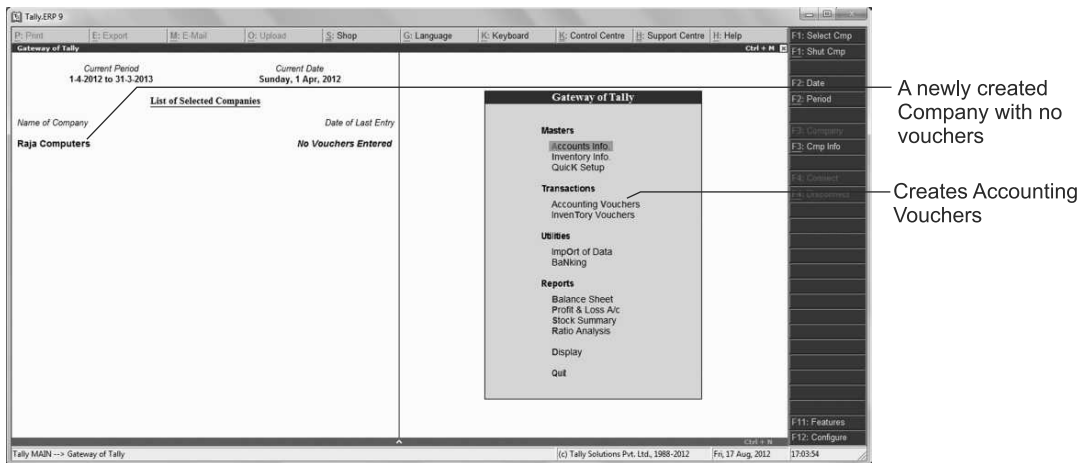


Fig. 7.7 A new company created in Tally

Note If the company was created with Account Only, the Gateway of Tally does not display some options, such as Inventory Info, Inventory Voucher and Stock Summary.

After you have created the company, the next step is to set up masters for *Accounts information* and *Inventory information*, if applicable.



7.5 CREATING ACCOUNTS INFORMATION MASTERS

Before you can enter accounting data for a company, you need to create accounting masters for *Account Groups*, *Account Ledgers* and *Voucher Type*. These masters are then used to enter accounting data through vouchers. The *Account Info* option in Gateway of Tally enables us to define accounting masters.

- To define Accounting Information masters, choose the *Account Info* option in the Gateway of Tally menu. To choose this option, you may either press **A**, double click **Accounting Info** or use arrow keys/mouse to highlight “Accounting Info” and press **Enter**. Then Tally displays the Accounts Info menu under Gateway of Tally, as shown in Fig. 7.8.

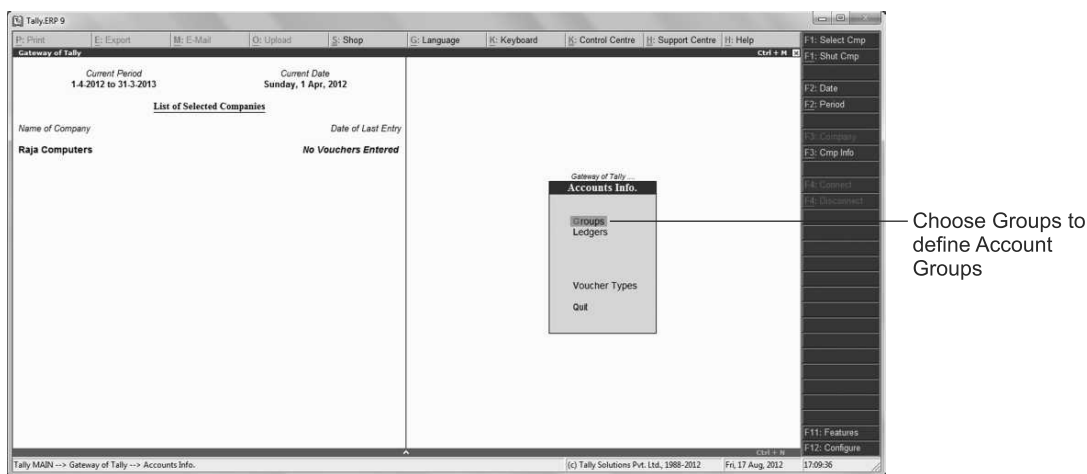


Fig. 7.8 Gateway of Tally displaying the Accounting Info menu

Now you may create Groups, Ledgers and Voucher Types or choose the Quit command to quit the Accounting Info menu and return back to Gateway of Tally.

7.5.1 Creating Groups and Ledgers

Groups and Ledgers are backbone of accounting. When a company conducts its business, it does various types of activities which result in movement of money and/or goods. To record the movement of money, goods, etc., in the accounting system, we create *transactions*. Of course, there are different types of transactions, e.g., payments, receipts, sales, purchase, and so on. In accounting, different types of transactions are assigned to different *head of accounts*, which are called *Ledgers*. Depending on the size of the company, it may have a few or lots of ledgers. Regardless of the number of ledgers a company uses, all ledgers are classified into *Groups*, also known as *Account Groups*. In other words, a Group is collection of ledgers of the same nature. Typical Groups are Bank Accounts, Current Assets, Current Liabilities, Cash-in-Hand, Direct Incomes, Direct Expenses, Investments, etc. The Groups and Ledgers are used to create the Balance Sheet and the Profit and Loss Statement.

When you setup a company in Tally, it automatically creates a few Groups and Ledgers. Depending on your requirements, you may create more Groups and Ledgers or even rename or delete these. To

maintain Groups or Ledgers, choose the corresponding option in the Account Info menu in Gateway of Tally. Let us have a look at the predefined Groups.

- Double click **Groups** in the Account Info menu and Tally displays the Groups menu shown in Fig. 7.9.

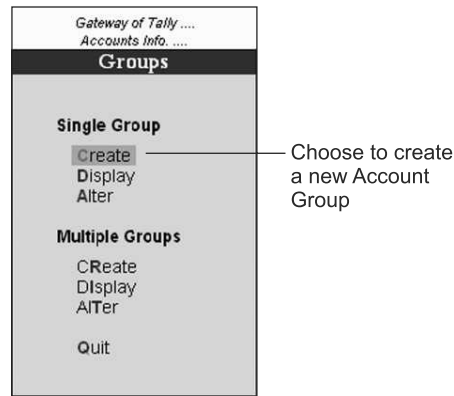


Fig. 7.9 The Groups menu

In Tally, there are two types of Groups – *Primary Groups* and *Sub Groups*. Some of the predefined Primary Groups are Capital Account, Cash-in-hand, Current Assets, Current Liabilities, Loans, Direct Income, Purchase Account, Sales Account, Stock-in-hand and Investments. All primary groups belong to one of the four basic types – Assets, Expenses, Income and Liabilities. As the name Sub Group implies, it belongs to a Group. One or more Sub Groups may be placed under a Group, e.g., Bank Accounts, Loan Advances, Stock-in-Hand and Sundry Creditors sub groups come under the Current Assets primary group.

- To view the list of defined groups, double click the **Display** option under the Single Group or Multiple Groups in the Groups menu.
- To close the Groups display list, press **Ctrl+Q** or **Esc**, or click the close (X) button at the top-right corner, located under the Help button.

Creating a Group The *Create* option is used to create a new group, as shown in Fig. 7.9. Figure 7.10 displays a group being created in the Single Group mode. At the top, you define the name and alias (optional) for the group. Next you choose if this is a primary group or will be under an existing primary group. To create a primary group, choose Primary, the first entry under the List of Groups list displayed on the right side, as shown in Fig. 7.10.

- After you have defined all options, when you press **Enter**, Tally displays the Accept box; click **Yes** to create the group or **No** to cancel the group creation process. After creating the group, Tally displays a new screen to create another group. If you do not want to create another group, click the **Quit** button or press **Ctrl+Q** to close the Group Creation screen.

To confirm that Tally has created the group, you may use the Display command in the Groups menu box. And, in case you want to modify a defined group, use the **Alter** option, which also enables you to delete that group.

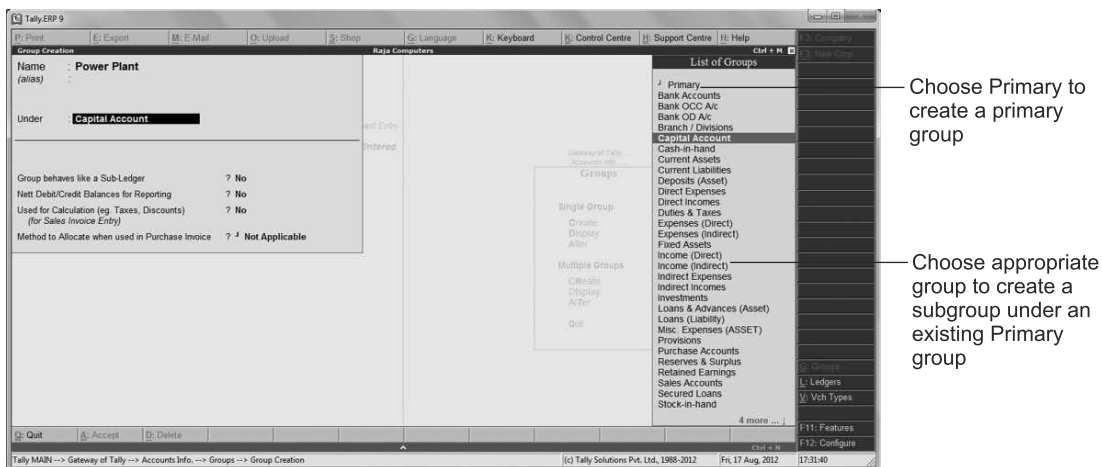


Fig. 7.10 Creating a group

- After you have done with the Groups, click **Accounts Info**, press **Ctrl+Q** or choose the **Quit** command to go back to display the Accounts Info menu.

Creating a Ledger Tally predefines two ledgers: Cash and Profit & Loss A/c. The Cash ledger is created under the Cash-in-hand group. Tally allows you to rename the Cash ledger, enter an opening balance, or even delete this ledger. On the other hand, the Profit and Loss A/c ledger is of primary type that cannot be deleted, though you can modify. Since, there are only two predefined ledgers; users typically create one or more ledgers. To create a ledger, choose **Ledgers** in the Accounts Info menu box to display the Ledgers menu box, as shown in Fig. 7.11.

The **Create** option under the *Single Ledger* is used to create one ledger at a time. If you want to create several similar ledgers of the same type (under the same Account Group), use the **Create** command from the *Multiple Ledgers* section. For example, if the company maintains accounts at more than one bank, you may create ledgers for all those banks in one go with the Create command under Multiple Ledgers. Let us first create a single ledger.

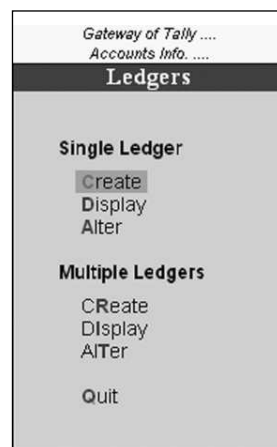


Fig. 7.11 The Ledgers menu

- Choose the **Create** command under the *Single Ledger* in the Ledgers menu box, and Tally displays a screen to create a ledger, as shown in Fig. 7.12.
- First, you need to define a name (account head name) for the ledger in the Name box in the top-left corner of the screen.
- After entering the name, on pressing the **Enter** or **Tab** key, Tally moves the cursor to the Alias box, where may optionally assign an *alias*, an alternate name for the ledger. If you do not want to define an alias, press the **Enter** key to move the cursor to the next field.

Now Tally displays a default Group name in the Under box and a list of Groups in the right-hand side of the screen, as shown in Fig. 7.13.

Ledger Creation

Name :
 (alias) :

Under : Capital Account

Inventory values are affected ? No

Opening Balance (on 1-Apr-2012) :

Mailing Details

Name :
 Address :
 State :
 PIN Code :

Tax Information

PAN / IT No. :
 Sales Tax No. :
 CST No. :

Total Op. Bal. :

Gateway of Tally :
 Accounts Info. :
 Ledgers :
 Single Ledger :
 Create :
 Display :
 Alter :
 Multiple Ledgers :
 CRreate :
 Display :
 Alter :
 Quit :

Ctrl + M

Tally MAIN --> Gateway of Tally --> Accounts Info. --> Ledgers --> Ledger Creation

(c) Tally Solutions Pvt. Ltd., 1988-2012

Fri, 17 Aug. 2012

17:49:45

Fig. 7.12 Creating a Ledger

Ledger Creation

Name : Office Furniture
 (alias) :

Under : Capital Account

Inventory values are affected ? No

Opening Balance (on 1-Apr-2012) :

Mailing Details

Name :
 Address :
 State :
 PIN Code :

Tax Information

PAN / IT No. :
 Sales Tax No. :
 CST No. :

Total Op. Bal. :

Gateway of Tally :
 Accounts Info. :
 Ledgers :
 Single Ledger :
 Create :
 Display :
 Alter :
 Multiple Ledgers :
 CRreate :
 Display :
 Alter :
 Quit :

List of Groups

Bank Accounts
 Bank OCC A/c
 Bank OD A/c
 Branch / Divisions
 Capital Account
 Cash-in-hand
 Current Assets
 Current Liabilities
 Deposits (Asset)
 Direct Expenses
 Direct Incomes
 Duties & Taxes
 Expenses (Direct)
 Expenses (Indirect)
 Fixed Assets
 Income (Direct)
 Income (Indirect)
 Indirect Expenses
 Indirect Incomes
 Investments
 Loans & Advances (Asset)
 Loans (Liability)
 Misc. Expenses (ASSET)
 Power Plant
 Provisions
 Purchase Accounts
 Reserves & Surplus
 Retained Earnings
 Sales Accounts
 Secured Loans
 Stock-in-hand

4 more ...

Ctrl + M

Tally MAIN --> Gateway of Tally --> Accounts Info. --> Ledgers --> Ledger Creation

(c) Tally Solutions Pvt. Ltd., 1988-2012

Fri, 17 Aug. 2012

17:54:38

Fig. 7.13 Choosing a Group for the Ledger being created

- Use the arrow keys or the mouse to select the desired Group and the press the **Enter** key. Alternatively, double click the desired Group to assign it to the Ledger being created.

After assigning the Group that the ledger belongs to, define other details as applicable. One of the information that is usually filled-in is the Opening Balance. If applicable, fill-in other details, such as State, PAN number, Sales Tax number, etc. Providing these details for ledgers that refer to debtors and

creditors will ensure that your accounts are complete and you won't face problems with Tax authorities. If you do not have all details at present, you may easily enter these later by altering the ledger.

- After you have provided the details, when you press the **Enter** key on the last field, Tally displays the Accept box, where you choose **Yes** to create the ledger to **No** to cancel the operation. If you choose **Yes**, Tally creates the ledger and displays the empty Ledger Creation screen, where you may create another ledger. If you do not want to create more ledgers, press **Ctrl+Q** or choose the **Quit** command to return to Gateway of Tally, Account Info, Ledgers screen.

After you know how to create a single ledger, you will find creating multiple ledgers quite simple. To create multiple ledgers, choose the **Create** option under **Multiple Ledgers** in the Ledgers menu box (See Fig. 7.11). Figure 7.14 displays multiple ledgers being created in Tally. Notice that all ledgers fall under the same Group, though you can define separate opening balance for each ledger. After defining ledgers, press **Ctrl+A** or click the **Accept** button at the bottom of the screen to create the ledgers. After creating ledgers, you may use the **Display** command to display the list of defined ledgers or the **Alter** command to modify a ledger.

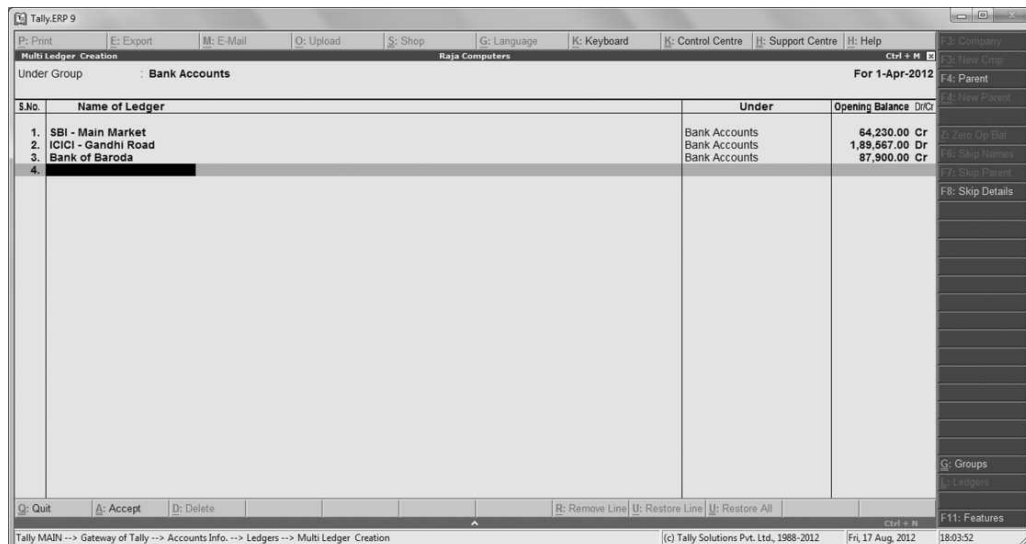


Fig. 7.14 Multiple Ledgers being created under the same Group

7.6 VOUCHERS



To conduct its business, a company performs various activities, such as buying goods and services, selling goods and services, receiving cash or cheques for goods or services provided by the company, giving loans to other companies, giving salary to its employees, and so on. All these activities result in transfer of money from or to the company directly or indirectly. To ensure that the Accounts Department approves only correct and authorised payments, each transaction is supported by a document, called the *voucher*. Thus, when a company buys goods from an outside party, the Supplier supplies goods and sends an invoice or bill. On the basis of the invoice, a payment voucher is created, which is later used to generate cheque or otherwise send payment to the Supplier.

To record various types of business transactions, Tally contains more than 20 predefined voucher types. Some of the predefined voucher types are Contra, Credit Note, Debit Note, Delivery Note, Journal, Material In, Material Out, Payment, Payroll, Purchase, Purchase Order, Receipt, Receipt Note, Sales, Sales Order, Physical Stock and Stock Journal. Depending on your requirements, you may create additional voucher types or modify the predefined voucher types. For instance, you may create a new voucher type for Sales Invoice or Bank Deposit Slip. Let us create a new voucher type for Sales Invoice.

7.6.1 Creating a Voucher Type

- From *Gateway of Tally*, choose **Accounts Info** to display the Accounts Info menu. Now double click **Voucher Types** to display the Vouchers Types menu, as shown in Fig. 7.15.



Fig. 7.15 Voucher Types

- Next, double click **Create** to display the Voucher Type Creation screen shown in Fig. 7.16.

Fig. 7.16 Voucher-type Creation screen

- To create a voucher type, first enter the desired voucher type name in the Name box. If required, you may also define an alias (alternate name) for the voucher type you are creating.
- Next move the cursor to the *Type of Voucher* field, and Tally displays the list of available voucher types on the right side of the screen, as shown in Fig. 7.17.

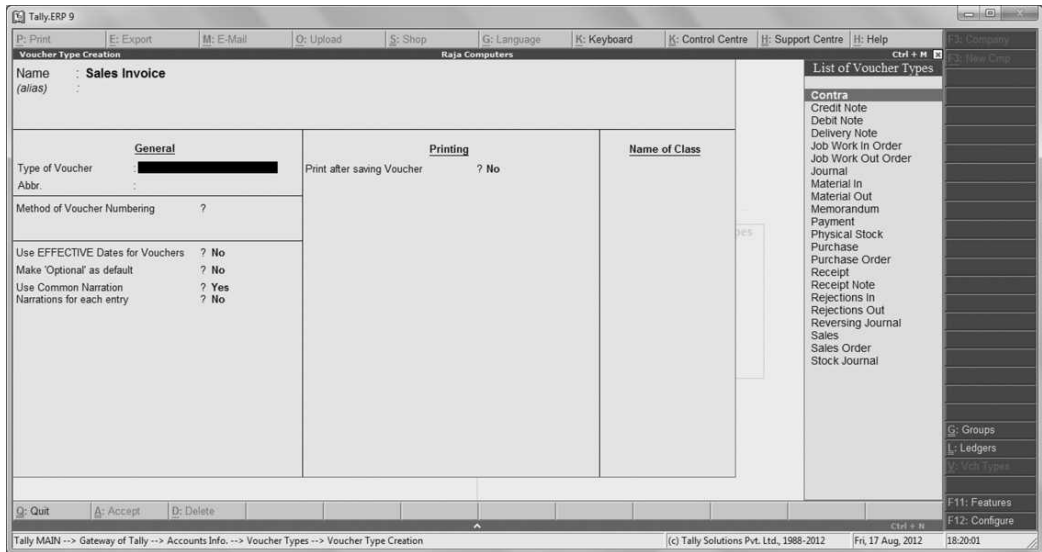


Fig. 7.17 Choosing the voucher type

- Now, choose the appropriate voucher type from the list. For example, for Sales Invoice, you may choose the Sales voucher type.

It is important to select the correct voucher type, as the voucher type you are creating inherits the properties of the selected voucher type. In other words, new voucher type functions like the predefined voucher type you select. On selecting a voucher type, Tally automatically fills the abbreviated name in the *Abb.* (Abbreviation) field. You may change the abbreviation, if required. However, abbreviation, which is used for certain unformatted reports, should be kept to maximum of 5 characters.

- Next you define the method of voucher numbering, which has three choices—Automatic, Manual and None. The most common choice is Automatic. If you decide to use the Manual option, Tally provides another option, “Prevent Duplicates”, which is helpful to prevent assigning the same number to multiple vouchers. For Automatic Voucher Numbering, Tally has another option to use Advance Configuration for voucher numbering. Advance Configuration helps to define starting voucher number, specify prefix and suffix characters and reset voucher numbers after specified period, e.g., weekly, monthly or yearly. For instance, one can generate voucher numbers, such as ABC00020, RC00030/2012 and SALE00450/2013.
- In the next box, you define a few more details about the voucher. For instance, you may decide to use *Effective Dates* for vouchers, which lets you enter an effective date at the time of voucher entry, which may be different from the voucher entry date. The *Narration* options let you use a common narration or separate narrations for each voucher entry.

After entering General details for the Voucher Type you are creating, next you define options in the Printing section in the middle of screen. The first option, “Print after saving Voucher” controls whether Tally prints the voucher after you enter the voucher. This option, whose default value is No, is used when you want to use the online voucher as the formal voucher. The next two options are used for POS (Point of Sale) Invoice configuration. Finally, the last optional section (Name of Class) in the Voucher Type Creation screen is used to create a new voucher class.

- After you have entered all details in the Voucher Type Creation screen, when you press the **Enter** key, Tally displays the *Accept* box that enables you to save the Voucher Type you have defined.
- After saving the Voucher Type, Tally redisplay the blank Voucher Type Creation screen to create another Voucher Type. If you do not want to create another Voucher Type, click the **Quit** button or press **Ctrl+Q**, and Tally returns you back to the Voucher Type menu. You may use the **Display** command to view the list of defined Voucher Types or the **Alter** command to modify any Voucher Type.

7.6.2 Configuring Voucher Entry

There are two types of vouchers – Accounting and Inventory. The Accounting vouchers are used to record all accounting related transactions, whereas the Inventory vouchers are used to record inventory related transactions, e.g., receipt, issue or transfer of goods. Some types of accounting vouchers can be entered and passed in *Single Entry* or *Double Entry* mode. Tally supports both modes; however, you need to configure Voucher Entry as per your requirements.

- To configure voucher entry, press **F12** in *Gateway of Tally* to display the Configuration menu, and then double click **Voucher Entry** to display the Voucher Entry Configuration screen shown in Fig. 7.18. To change any option from *Yes* to *No* or *No* to *Yes*, double click the corresponding option. After making the changes, press **Ctrl+A** to ask Tally to accept the changes and close the Voucher Configuration screen.

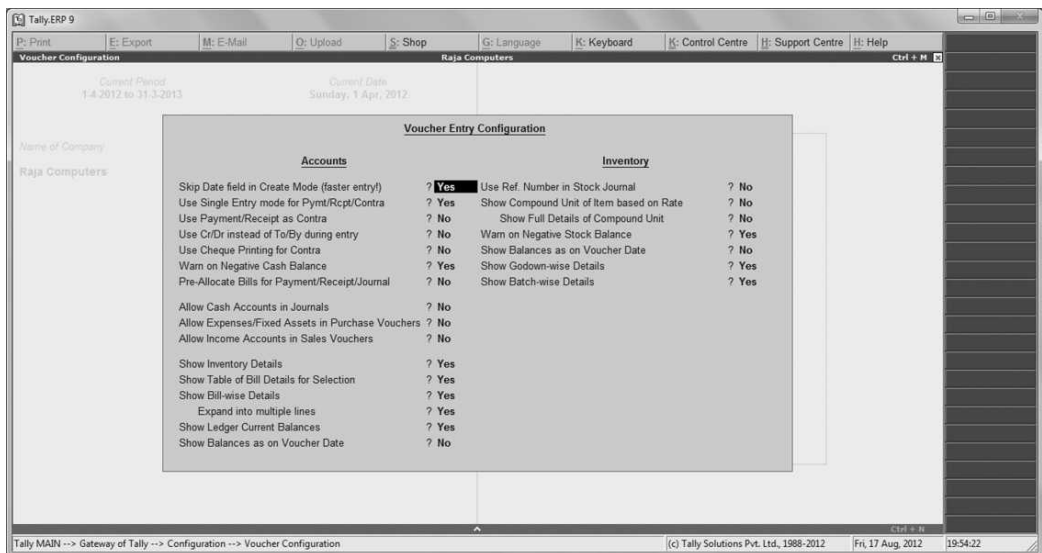


Fig. 7.18 Voucher Configuration



7.7 ENTERING ACCOUNTING VOUCHERS

- To enter accounting vouchers, choose **Accounting Vouchers** under *Transactions* in *Gateway of Tally* (see Fig. 7.7).

Tally displays the Accounting Voucher Creation screen shown in Fig. 7.19. The screen displays a default voucher type, which is Payment.

The screenshot shows the 'Accounting Voucher Creation' window in Tally ERP 9. The title bar indicates 'Tally ERP 9'. The menu bar includes options like Print, Export, E-Mail, Upload, Shop, Language, Keyboard, Control Centre, Support Centre, and Help. The main window is titled 'Payment' and 'No. 1'. The date is '1-Apr-2012 Sunday'. The 'Account' field is selected, and a list of ledger accounts is displayed. The 'Particulars' and 'Amount' columns are empty. The right-hand side contains a vertical menu with various voucher types and functions.

Voucher date. Press F2 to change the date

Fig. 7.19 Accounting Voucher Creation screen

- To change voucher type, press the corresponding Function key, e.g., **F4** to select Contra, **F6** to select Receipt or **F8** to select the Sales voucher type.

Notice that Tally displays the voucher date in the top right corner of the voucher screen. To use a different date, press F2 and type the desired date. After you have selected the voucher type and date, you may enter the other voucher details. First of all, choose the Account, i.e., Ledger. For a Payment voucher, you would select the account (ledger) the payment will be made from. Normally, it would be Cash or Bank Account.

- While the cursor is positioned in the Account field, press **spacebar** to display the list of ledgers on the screen. The list of ledgers displayed on the screen depends on the type of voucher being created. To choose a ledger, double click the desired ledger or click the ledger and press **Enter**.

On choosing a ledger, Tally displays the ledger name and its current balance on the screen, and moves the cursor under the Particulars column to enter voucher details. For example, for a Payment voucher, you would choose the Account (ledger) the payment is being made to and the amount. Figure 7.20 displays a payment voucher being entered.

- Initially, the cursor is positioned in the Particular column where you select the account (ledger) the voucher belongs to, e.g., for a payment voucher, the ledger the payment is being made to. To display the list of available ledgers, press the **spacebar** and then choose the desired ledger. After choosing the ledger, Tally displays its current balance. Then you enter the amount under the Amount column.

The screenshot shows the 'Accounting Voucher Creation' window in Tally ERP 9. The voucher type is 'Payment' and the number is 'No. 1'. The date is '2-Apr-2012 Monday'. The account selected is 'Bank of Baroda' with a current balance of '87,900.00 Cr'. The 'Particulars' table is empty. The 'Amount' column is also empty. The 'Narration' box is empty. The right-hand menu is open, showing options like 'F1: Inventory Buttons', 'F2: Date', 'F3: Company', 'F4: Contra', 'F5: Payment', 'F6: Receipt', 'F7: Journal', 'F8: Sales', 'F9: Purchase', 'F10: Contra Note', 'F11: Features', 'F12: Configure', 'V: VAT Payment', 'J: Post-Dated', 'L: Post-Dated', 'F11: Features', and 'F12: Configure'. Annotations with arrows point to the 'Account' field and the 'Particulars' table, with text indicating 'Choose the account (ledger)' and 'Enter Payment amount'.

Fig. 7.20 Entering a Payment Voucher

- In the same way, you may enter additional detail lines for the voucher. Next you define the payment option, e.g., cheque, electronic cheque or inter-bank transfer. Finally type the voucher description, e.g., “Challan No: 230 Payment for two computer tables” in the Narration box at the bottom of the voucher entry screen. Figure 7.21 displays a Payment Voucher with Narration details entered.

The screenshot shows the 'Accounting Voucher Creation' window in Tally ERP 9. The voucher type is 'Payment' and the number is 'No. 1'. The date is '2-Apr-2012 Monday'. The account selected is 'Bank of Baroda' with a current balance of '87,900.00 Cr'. The 'Particulars' table has one entry: 'Office Furniture' with a current balance of '10,000.00 Dr' and an amount of '10,000.00'. The 'Narration' box contains the text 'Challan No. 230 Payment for two computer tables'. The right-hand menu is open, showing options like 'F1: Inventory Buttons', 'F2: Date', 'F3: Company', 'F4: Contra', 'F5: Payment', 'F6: Receipt', 'F7: Journal', 'F8: Sales', 'F9: Purchase', 'F10: Contra Note', 'F11: Features', 'F12: Configure', 'V: VAT Payment', 'J: Post-Dated', 'L: Post-Dated', 'F11: Features', and 'F12: Configure'. The status bar at the bottom shows 'Tally MAIN --> Gateway of Tally --> Accounting Voucher Creation' and the date 'Fri, 17 Aug. 2012'.

Fig. 7.21 Payment Voucher with Narration

- Finally, click the **Accept** button at the bottom of the screen to accept the entered voucher. After accepting the voucher, Tally displays a blank screen to enter the next voucher. If you do not want to enter more vouchers, press **Ctrl+Q** to close the Voucher entry screen and return back to *Gateway of Tally*.



7.8 CREATING INVENTORY INFORMATION MASTERS

Besides managing accounting information, Tally can also manage the inventory information of company. The inventory options becomes available if you choose “*Accounts with Inventory*” when you created the company.

Note If the inventory options are not available, you may modify the company information by pressing Alt+F3 (Comp Info) in *Gateway of Tally* to display the Company Info menu. Then choose the **Alter** command to modify the type of accounts you want to maintain.

To manage the inventory information through Tally, the first task you need to do is to create *Stock Groups*, which are similar to the Account Groups that you have already used. Basically, these are used to classify the inventory into meaningful groups. The number of Stock Groups you would create depend on various factors, such as the type and size of the company, the kind of products, and the preference of the company’s management. A computer sales company may classify its products into Desktop, Laptop, UPS, Software, Misc, etc.

7.8.1 Creating Stock Groups

- To create Stock Groups, choose the *Inventory Info* option in *Gateway of Tally* to display the Inventory Info menu box, as shown in Fig. 7.22.

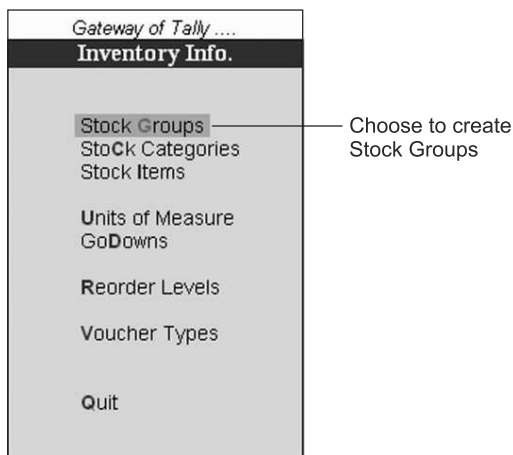


Fig. 7.22 *Inventory Info menu box*

Note Depending on the inventory features selected for the company, the Inventory Info menu may not display some options, such as Stock Category, Godowns and Reorder Level.

The *Stock Groups* option in the Inventory Info menu is used to create stock groups. On choosing this option, Tally displays the Stock Groups menu box, which displays commands to create, display and alter stock groups. Like account groups, you may create stock groups in single or multiple mode. Figure 7.23 displays a stock group being created. In the Stock Group Creation screen, you define the stock group name, alias (optional), and whether this is a primary group or under some primary stock group. For instance, the company may have Computers as the primary stock group, and Desktop, Laptop

and Netbook stock groups under the Computers stock group. In the Stock Group Creation screen, you also define whether quantities of items can be added. Usually, items are not added in primary groups.

After creating a stock group, Tally displays an empty Stock Creation Screen to create additional groups. Choose the **Quit** command, if you don't need to create more groups, which returns you to the Stock Groups menu box, which has commands to display or change the defined stock groups.

Type Stock Group name

Fig. 7.23 Stock Group creation screen

7.8.2 Creating Stock Categories, Units of Measure and Godowns

The *Stock Categories* is used to classify the stock items into various categories. For instance, a store may classify its items under hardware, software, chemicals, tools, etc. The *Units of Measure* is used to define units, such as Kilograms, Box, Dozen, etc. Use the appropriate option from the Inventory Info menu box to define Stock Categories, Units of Measure and Godowns.

7.8.3 Creating Stock Items

After creating Stock Groups, the next step is to create *Stock Items*. Figure 7.24 displays a stock item being created. In this screen, we define the item name, an optional alias name, group the item belongs to, units, rate of duty, etc.

Fig. 7.24 Stock Item creation screen

7.8.4 Creating Inventory Voucher Types

The *Voucher Types* option in the Inventory Info menu box (see Fig. 7.22) is used to create voucher types for maintaining inventory data in Tally. The process of creating inventory voucher types is similar to that for the accounting voucher types that we have already discussed in Section 7.6. Tally comes equipped with several common voucher types, such as Credit Note, Debit Note, Payment, Purchase, Receipt, Receipt Note, Purchase Order, etc. Of course, you may create additional voucher types as per your requirements.

7.9 ENTERING INVENTORY VOUCHERS



After you have created masters for inventory information, you may enter Inventory vouchers. To enter inventory vouchers, choose the Inventory Vouchers option under Transactions in Gateway of Tally (see Fig. 7.7.), and Tally displays the Inventory Voucher Creation screen shown in Fig. 7.25. The Voucher Creation screen displays an empty voucher for the default or last used inventory voucher type. To change the voucher type, click the corresponding button on the vertical Buttons bar on the right.

Click to change the voucher type

Fig. 7.25 Inventory Voucher creation screen

Entering information in the inventory vouchers is similar to that in accounting vouchers. You choose or enter the required details, and after you have entered all details, choose the Accept command to create the voucher. Figure 7.26 displays a Physical Stock voucher being entered in Tally.

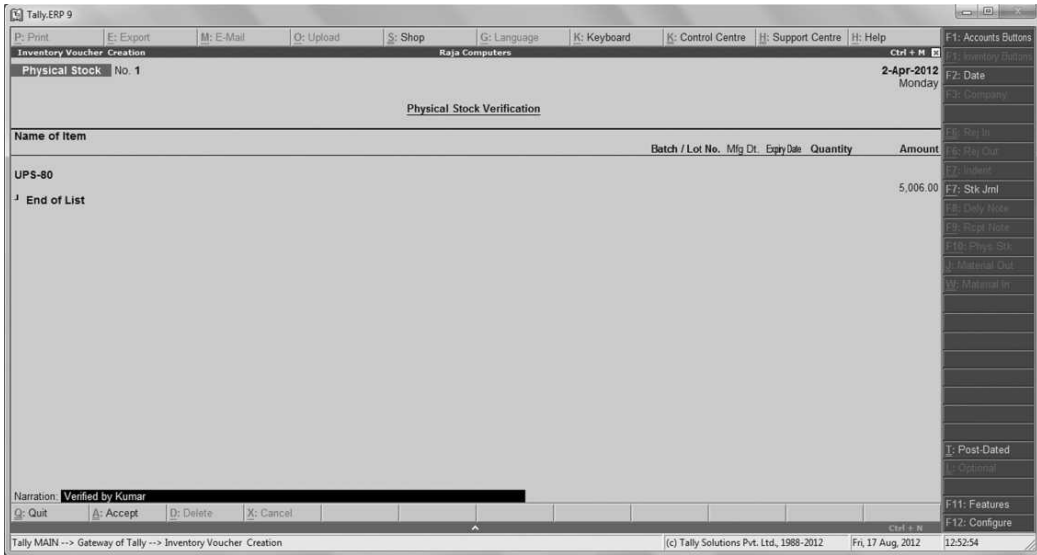


Fig. 7.26 Physical Stock Voucher being entered in Tally

7.10 REPORTS



One of the reason accountants love the computerized accounting packages like Tally is that they can generate several types of useful reports with no effort. Tally comes equipped with all common reports, such as trial balance, day book, all types of account books, inventory books, balance sheet, profit and loss account and stock summary. You may run any of these reports any time, and Tally instantly displays the report on the screen, which you may print on the printer, if required. The *Gateway of Tally* menu displays options to run the following important reports:

1. Balance Sheet
2. Profit and Loss A/c
3. Stock Summary
4. Ratio Analysis

To run other reports, choose the Display command in *Gateway of Tally* to get the Display menu shown in Fig. 7.27.

On selecting an option in Display Menu, Tally runs the corresponding report. Figure 7.28 displays the Day Book report for a company. On selecting some options, e.g., Account Books, Statement of Accounts, Inventory Books, etc., Tally displays a submenu to choose a specific report to run. For example, on choosing Account Books, the submenu displays options to run Cash/Bank Books, Ledger, Group Summary, Group Vouchers, Sales Register, Purchase Register, Journal Register, etc. Description of all these reports is beyond the scope of this book. You may run these reports to get the feel of these reports or see the Tally help system. To access Tally Help, click the Help button located in the right corner on the horizontal button bar at the top of the screen.

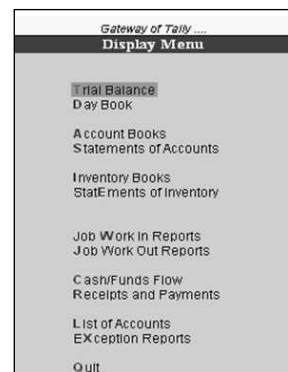


Fig. 7.27 The Display Menu

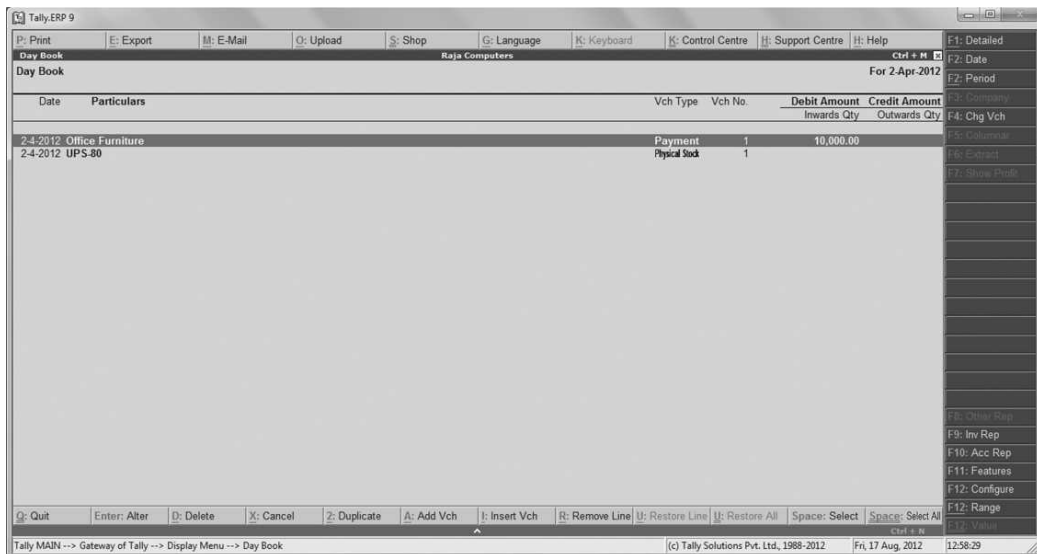


Fig. 7.28 The Day Book report

7.11 USING TALLY TO MAINTAIN PAYROLL



Tally may be used to maintain company's payroll. To check if, this feature is on, perform the following steps:

- In the *Gateway of Tally* menu, press **F11** (Features) and then press **F1** (Accounts) to display a screen that displays the Accounting features.
- In the *Cost/Profit Centres Management* section, set *Maintain Payroll* to **Yes**, if required.
- Click the **Accept** button to save the changes.

After enabling the payroll, next, you need to configure it.

- In the *Gateway of Tally* menu, press **F12** (Configure) to display the Configuration menu. Now double-click **Payroll Configuration** to display the Payroll Configuration screen, shown in Fig. 7.29.

Payroll Configuration	
Add NOTES for Employees	? Yes
Show Statutory Details	? Yes
Show Passport & Visa Details	? Yes
Show Contract Details	? Yes
Show Resigned / Retired Employees	? No
Show Employee Display Name	? Yes

Fig. 7.29 The Payroll Configuration screen

For an Indian company, it is recommended to set *Show Salutory Detail*, *Show Passport and Visa Details* and *Show Contract Details* to Yes.

7.11.1 Creating Payroll Masters

Like Accounting and Inventory Masters, you need to create Payroll masters before entering payroll vouchers. After you have enabled payroll, Gateway of Tally displays an option – *Payroll Info*, which is used to create payroll masters, as shown in Fig. 7.30.

Payroll Info enables you to define employee groups (e.g., Production, R&D, Accounts, Sales, Management, etc.). The employee group is either defined as *primary*, or under an existing group. The *Employees* option is used to define employees, the group the employee belongs to and the date of joining. The *Units (Work)* option is used to create units, such as Hours and Weeks, for use with payroll.

All payments to the employee as well as deductions related the payroll must be assigned to a *Pay head*. Common pay heads are Earning for Employees, Deductions from Employees, Bonus, Gratuity, Loans and Advance, Reimbursement to Employees. You may define new Pay heads by choosing the *Pay Heads* option in *Payroll Info*.

After defining Pay heads, the next step is to define Salary Details for the employees. Figure 7.31 displays Salary Details being defined for an employee.

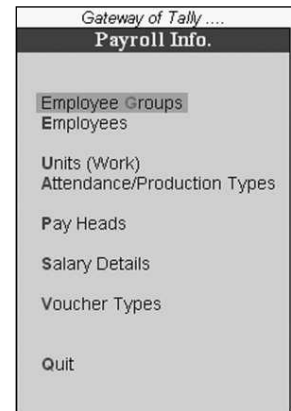


Fig. 7.30 Payroll Info

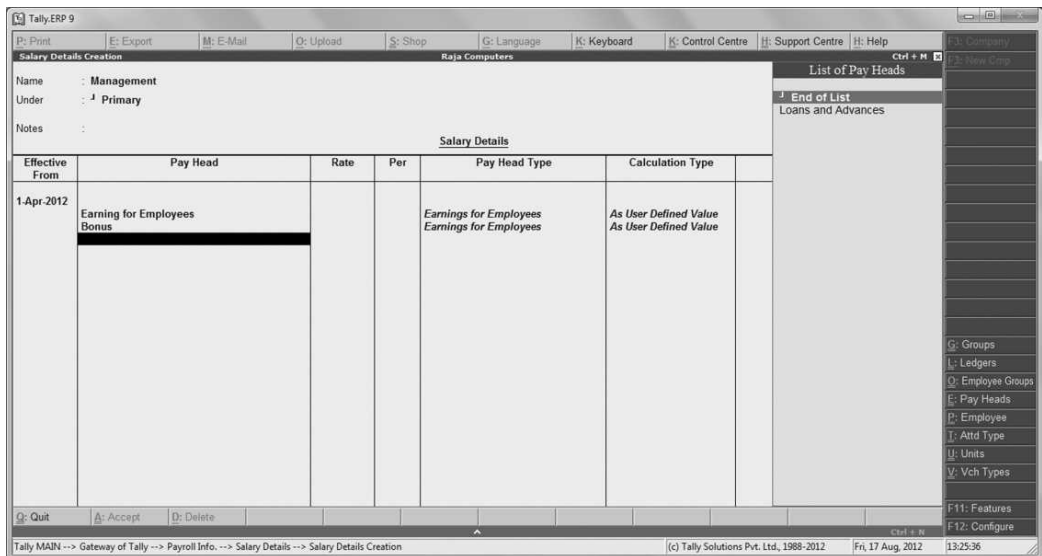


Fig. 7.31 Defining Salary Details

7.11.2 Processing Payroll

To process payroll, we need to create payroll vouchers, which is done by choosing *Payroll Vouchers* from *Gateway of Tally*. This displays a blank payroll voucher. However, Tally can help us to automatically create payroll voucher by pressing **Alt+A** (Payroll Auto Fill). On using this option, Tally displays the Employee Filters, which is used to select start and end date for payment, employee/employee group and payroll head. Based on the selection, Tally creates the payroll voucher. Besides the AutoFill payroll voucher, you may also create payroll voucher through *Manual Attendance Voucher Creation*.

7.11.3 Payroll Reports

Tally comes equipped with several useful payroll reports. To view or print payroll reports, choose *Payroll Reports* from the *Display Menu*. On choosing the *Statement of Payroll* option, Tally displays a menu to generate various types of Payroll statements, as shown in Fig. 7.32. On choosing an option, Tally generates the corresponding payroll statement.

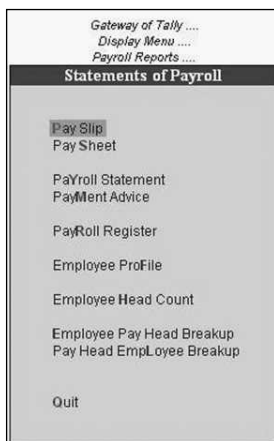


Fig. 7.32 Statement of Payroll Reports

7.12 MAINTAINING MULTIPLE COMPANIES



Tally can maintain accounting and inventory data for multiple companies. In other words, you may setup multiple companies and then select any of those companies to enter the accounting and inventory data.

- If multiple companies are setup, to select a company, press **F1** in *Gateway of Tally* to display the list of companies. Figure 7.33 displays the List of Companies setup in Tally.

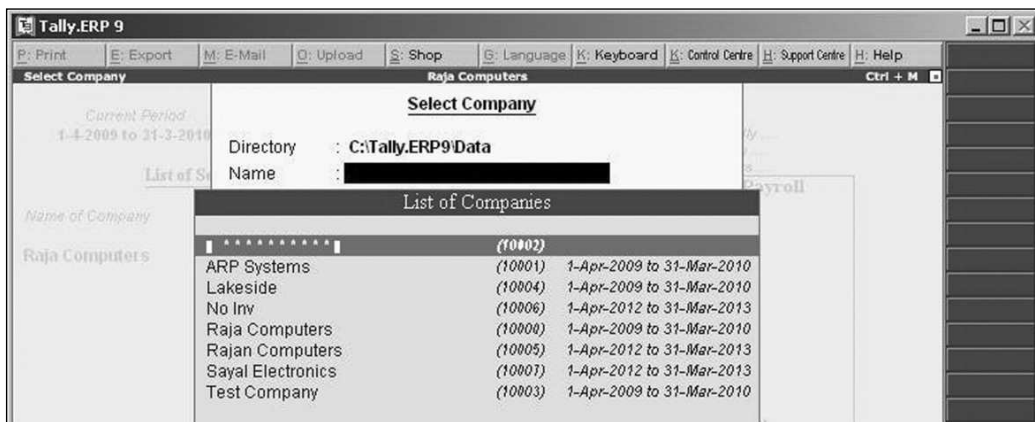


Fig. 7.33 Selecting a Company

Notice that the list of companies displayed by Tally also includes a system generated number. The number is helpful if you assign the same name to more than one company. When you choose the desired company, Tally loads its data.

If you need to create a new company, press **Alt+F3** in Gateway of Tally to display the Company Info menu and choose the **Create Company** option. You may notice a button, **F1: Shut Cmp** in the vertical button bar of *Gateway of Tally*, which is used to unload the company's data from the current session of Tally. It does not mean that the company's data will be deleted. When you select that company again, Tally would reload data.

7.12.1 Altering or Deleting a Company

If you want to alter a company or permanently remove all data for a company, follow these steps:

- In *Gateway of Tally*, press **Alt+F3** or click "**F3: Cmp Info**" to display the Company Info menu.
- Double click **Alter** in the Company Info menu. (See Fig. 7.4.)
- From the list of companies displayed by Tally, choose the company you want to alter/delete. Tally displays the Company Alteration screen.
- Now you may alter the company data. To permanently remove the company data, press **Alt+D** and Tally prompts you to confirm the delete operation.

7.12.2 Backup and Restore

Data stored in a computer may become corrupted due to several reasons, including hardware, software and power failure. While it may be possible to recover corrupted data, it cannot be guaranteed. Therefore, it is advisable to backup data entered in Tally at regular intervals. Most organizations backup data every night, or at least once every week. Tally helps you to create backups with ease. Follow the steps given below to make backups of Tally data.

- In Gateway of Tally, press **Alt+F3** to display the Company Info menu.
- Double click **Backup** in the Company Info menu and Tally displays the screen similar to that shown in Fig. 7.34.

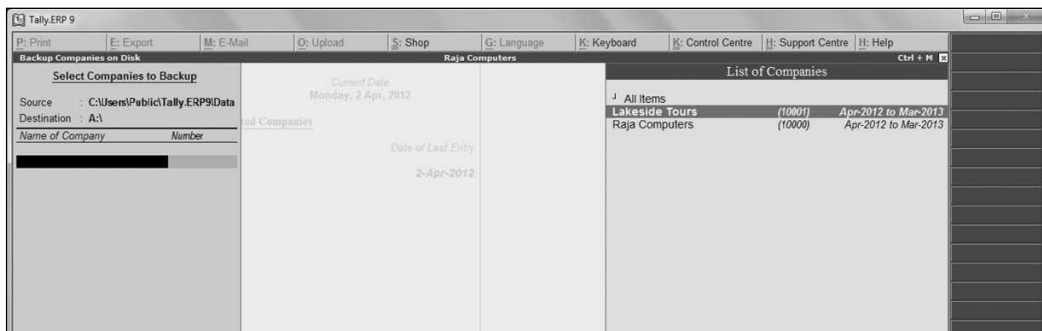


Fig. 7.34 Taking backups

The *Source* is the folder on your computer that contains company data, and *Destination* is the folder where you want to save the backup. Normally, you do not need to change the source; however, you may change the Destination as per your requirements.

- Choose one or more companies whose backup you want to take from the List of Companies box on the right.
- Finally choose “End of List” and Tally Displays the Accept box with Yes and No options. Choose **Yes**, and Tally creates the backup.

Restoring data from backups is very simple—just choose the Restore command from the Company Info menu, specify Source and Destination, and Tally will do the rest.

7.12.3 Split Company Data

As you keep entering company data in Tally, the amount of data keeps growing and Tally’s operation may become slow. One way to fix this problem is to split the company data into two. Usually, the data for previous financial years is put into one company and that for the current year into the second. This also ensures that data for the past financial years whose accounts have been finalised is not changed accidentally.

- To split the company data, choose the Split Company Data option from the *Company Info* menu, and choose the company whose data you want to split. Then Tally displays the Split Company screen shown in Fig. 7.35. Now choose the dates and Tally will do the rest to split the company data.



Fig. 7.35 Split Company Data

7.13 MULTI-LINGUAL CAPABILITIES



Tally has multi-lingual capabilities. Depending on the operating system and languages installed on your PC, you may be able to use the Tally interface and enter and display data in several languages, such as Hindi, Marathi, Tamil, Telugu, Kannada, Punjabi, Gujarati, Bengali and Malayalam. Figure 7.36 displays Tally being operated in Hindi. To change the language, click the **Language** button on the toolbar and choose the desired language from the list displayed by Tally.

Note Multi-lingual support is not available on Windows 95, 98, NT and ME.

If you want to enter data in any of the supported languages, choose the desired keyboard language by clicking the keyboard button on the toolbar. If you do not have the keyboard for the desired language, you may use the On-Screen keyboard, which lets you enter characters by clicking keys on a virtual keyboard displayed on the screen. Figure 7.37 displays the On-Screen keyboard being used with Tally.

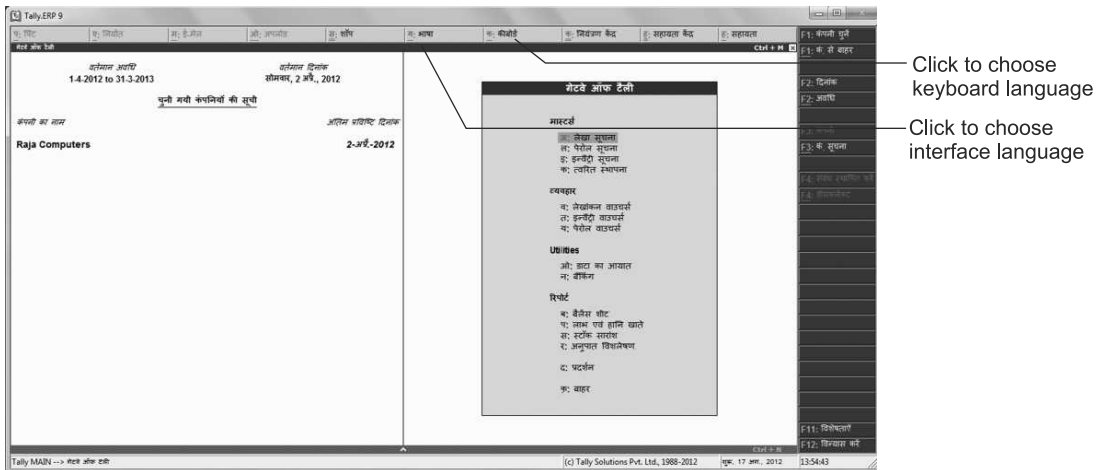


Fig. 7.36 Tally being operated in Hindi

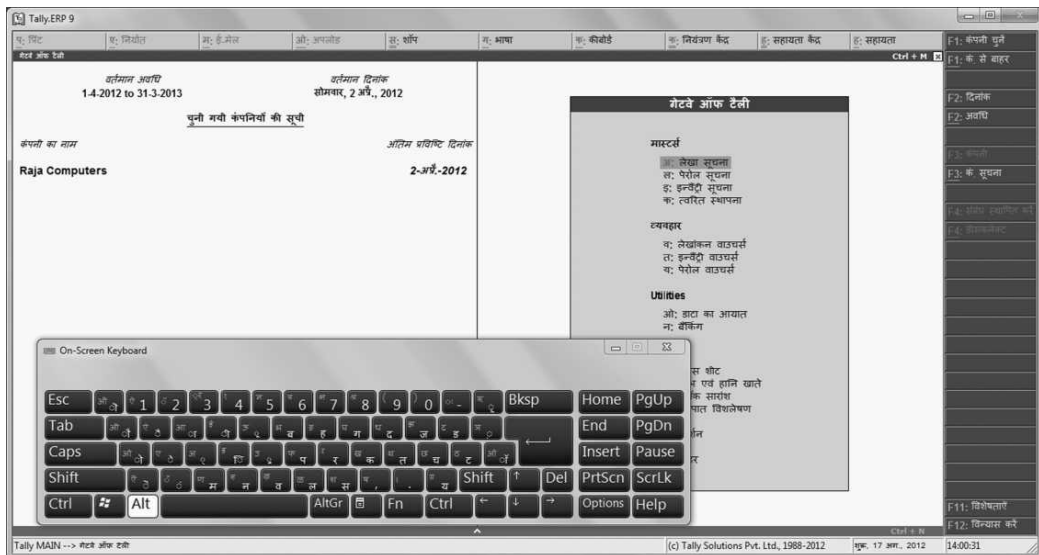


Fig. 7.37 On-Screen keyboard being used with Tally

- To display the On-screen keyboard in Windows 7, click the **Start** button on the Task bar to display the Start menu and then choose **All Programs, Accessories, Ease of Access, On-Screen Keyboard**. If you are using Windows XP, click the **Start** button on the Task bar to display the Start menu and then choose **Programs (or All Programs), Accessories, Accessibility, On-Screen Keyboard**.
- To change the keyboard language, choose it from the Language bar or the language icon located on Windows taskbar. You may also press **Alt+Shift** to change the keyboard language. Each time you press **Alt+Shift** keys, Windows selects the next installed input language.

7.13.1 Installing Support for Hindi and other Languages

If you cannot find the Hindi or other Indian languages in the Language bar or when you press Alt+Shift, it means that the support for the corresponding language is not installed. On Windows 7, perform the following steps to install support for the Hindi or other languages.

- Click Start button, type **Keyboard languages** in the *Search Programs and Files* box and click **Change keyboards or other input methods** in the search results. Then Windows 7 displays the Region and Language dialog box.
- In the Region and Language dialog box, click the **Change keyboards** button to display the Text Services and Input Languages dialog box shown in Fig. 7.38.

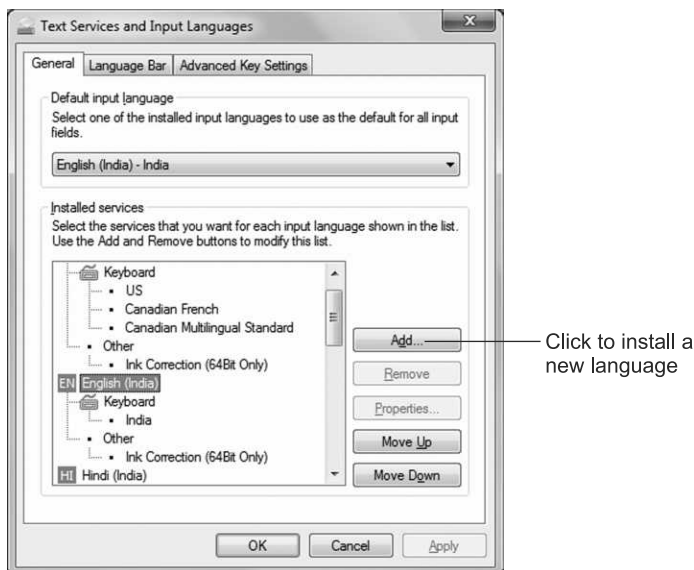


Fig. 7.38 Text Services and Input Languages dialog box

- To install a new language, click the **Add** button to display the Add Input Language dialog box. Then choose the desired language, e.g., Hindi, as shown in Fig. 7.39.
- After choosing the language, click the **OK** button and Windows installs the selected language and displays it in the Text Services and Input Languages dialog box. Now click the **OK** button to close the dialog box. Click **OK** again to close the Regional and Languages Options dialog box.

Now, you should be able to choose the installed language on the Language bar and enter characters in Hindi or other installed languages through a regular keyboard as well as the On-screen keyboard. Steps to install support for other languages in Windows XP are similar to that for Windows 7.

7.14 MIGRATING DATA FROM EARLIER VERSIONS OF TALLY



If you have the accounting data in earlier versions of Tally, e.g., Tally 7.2 or Tally 6.3, these files cannot be used directly with Tally.ERP 9. However, to help you migrate the data to the new version, Tally contains the *Migration Tool*. To start the data migration tool, run the **tally72migration.exe** file, which

is contained in the same folder where Tally is installed. After starting the migration tool, choose the appropriate command from the menu to perform the migration. Figure 7.40 displays the opening screen of Tally.ERP 9 Data Migration Tool.

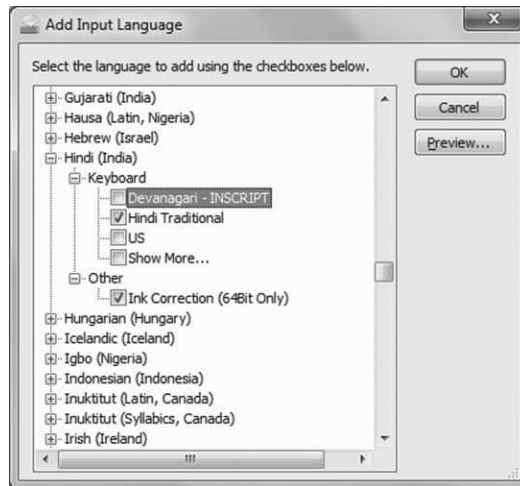


Fig. 7.39 Adding support for a language



Fig. 7.40 Tally Data Migration Tool

Note To use Tally Data Migration Tool, you must have a valid Tally license, i.e., you cannot use this tool in the Educational Mode of Tally. To migrate Tally 6.3 data to Tally.ERP 9, you need to first convert it to the Tally 7.2 format.

7.15 REMOTE ACCESS



Tally has built-in capabilities to allow authorized users to access the company data residing on your computer from anywhere using Internet and **Tally.Net**. The remote access of data is particularly useful for a larger company having locations in multiple cities. The remote access is also helpful to financial auditors to view live company data from their offices. To enable the remote access feature, it is required to complete the Advanced Configuration in the Configuration menu, and create usernames and passwords. To use remote access of data, one also needs to have a valid Tally license and subscription to **Tally.Net**. Configuring Tally for remote access is recommended to be done by advanced users. For more details, refer to the Tally help system.

INTERNET AND WEB BROWSERS

In this chapter, we will discuss the following topics:

- ◆ *Introduction and History of Internet*
- ◆ *Hardware and Software Requirements for Using the Internet*
- ◆ *Common Applications of Internet*
- ◆ *Web Address*
- ◆ *Using Internet: Internet Explorer, Mozilla Firefox and Google Chrome*
- ◆ *Exploring the Web*
- ◆ *Searching for Information: Google and other Search Engines*
- ◆ *Home Page*
- ◆ *Tabbed Browsing, Bookmarks, Saving and Printing Information*
- ◆ *Browsing History*
- ◆ *Changing Text Size in Browser*
- ◆ *Blocking Popup and Forms*
- ◆ *Secure Webpages*
- ◆ *Cookies and Cache*
- ◆ *Downloading and Uploading Files*
- ◆ *Audio and Video on the Web*
- ◆ *Online Shopping and Banking*
- ◆ *Internet in Indian Languages*
- ◆ *Internet Translation Services, Maps and Directions*
- ◆ *Keeping PC Safe: Antivirus, Spyware/Adware and Firewall*



8.1 WHAT IS INTERNET?

The *Internet* is a huge network of interconnected networks. When a few computers are connected together so that they can interchange information or share resources, it forms a *network*. The Internet consists of millions of such interconnected networks located throughout the world. The Internet, which is the largest network of networks in the world, enables information to be interchanged between computers located in each and every corner of any country of the world. Now that this huge network is available, people use it for various applications, such as world wide web, electronic mail (E-mail), find information, buy and sell goods and services, train, airline, movies booking/ticketing, banking and other financial applications, tax payments, education, socializing, playing games, play/download music/video, voice/video communication, etc. Nowadays, the Internet has become an integral part of the modern society, and its use is only limited to one's imagination.



8.2 HISTORY OF THE INTERNET

In 1960s, the United States Department of Defence initiated the project ARPANET (Advanced Research Projects Agency Network). They wanted to create a network that will enable various computers owned by the United States Department of Defence to communicate with each other. The ARPANET became operational in 1969. In the next 10 years, ARPANET grew by connecting a number of defence and educational computers to itself. As more and more computers joined the ARPANET, it was decided to break it into two networks – MILNET (for the military computers) and a smaller ARPANET for non-military use. These two separate networks could still communicate to each other through a protocol called the *Internet Protocol (IP)*.

The communication protocols between networks were standardized to *TCP/IP (Transfer Control Protocol/Internet Protocol)*, and the network started growing. People started calling it the Internet. As commercial companies found the Internet useful, it expanded to Europe and slowly covered the entire world. The beauty of the Internet is that if one network fails, it automatically finds an alternate route to transmit the information. Thus, a computer can send information to another computer without worrying how it would reach there.

8.3 HARDWARE AND SOFTWARE REQUIREMENTS FOR USING THE INTERNET



To use the Internet, you need the following:

1. A computer or some other device that can connect to the Internet.
2. An *Internet Service Provider (ISP)* that will allow your computer to connect to the Internet.
3. Additional hardware, e.g., a modem and cables, may be required to connect the computer to the *medium* used by the ISP.
4. Software that will enable your computer to connect to the Internet and you to use it.

The first requirement to use the Internet is that you need a computer or some other Internet enabled device. While most people use their desktop or laptop PC to access the Internet, you may use a host of other internet-enabled devices, such as a mobile phone, iPhone, BlackBerry, iPad and other tablet computers.

The *Internet Service Provider* (ISP) is the company that brings the Internet to you. You can connect to the Internet via different ways, such as dial-up, Digital Subscriber Line (DSL), Cable and Wi-Fi. The type of the Internet connection you will choose depends on the number of factors, such as the connection speed, your internet usage type and amount of time you want to use the Internet, ease of use, and of course, the price charged by the ISP for various types of services.

8.3.1 The Dial-up Connection

The dial-up connection uses the regular telephone line to access the Internet through ISP. Besides the telephone line, you need a piece of equipment called the *modem* (Modulator Demodulator), which is installed between the computer and the telephone line. Many PCs may already have a built-in telephone modem, and in that case you may not need any additional hardware, except a cable to connect the PC to the telephone line. Current telephone modems have the maximum speed of 56 Kilobits/sec.

The dial-up Internet connection is the slowest among the available types. A few years ago, when DSL and cable connections were very costly or not available in many areas, most home Internet users used to opt for the dial-up connection. Besides the slow speed, it has another drawback—it ties your telephone line, i.e., while using the telephone line to connect to the Internet, you cannot make regular phone calls. The dial-up connection is suitable only for occasional light use, e.g., to check the e-mail or search for information.

8.3.2 The Digital Subscriber Line (DSL)

The Digital Subscriber Line (DSL) is a special telephone line designed to handle high-speed digital signal for the Internet. Usually, DSL lines use high speed fiber-optic cables. A DSL line offers a connection that is always available (no need to dial) and a minimum speed of 256 Kilobits/second. Depending on the type of DSL line, speeds can be as high as 175 Megabit/second (MBs). Nowadays, one can get a DSL line for a few hundred Rupees a month for light use. The vendors offer DSL Internet connection in various configurations, depending on the volume and/or time of use. You may choose a suitable plan depending on your requirements. The Internet connection through a DSL line is also called the *broadband* or *high-speed* connection. To connect your computer to a DSL line, you need a DSL modem. This equipment is usually provided and installed by the vendor who provides the DSL line.

8.3.3 Internet via Cable

Since 2010, Indian TV cable companies have started offering high-speed Internet connection through the cable that brings the TV signal. The performance of the cable Internet connection is similar to or better than a DSL line connection. However, when several subscribers who are connected through the same cable and use the Internet simultaneously, the performance may degrade. As with the DSL line, you need a cable modem to connect your computer to the Internet through cable.

To provide a very high speed internet connection, some ISPs lay dedicated fiber-optic cables. In July 2012, Google started offering the Internet access on its fiber-optic network with download speed of 1000 Megabits/second in Kansas City, USA. This speed is about 100 times faster than a typical high-speed connection.

8.3.4 Internet on Portable Devices through Wireless

Another way to get the Internet access is through an Internet enabled wireless device, such as a mobile (cell) phone, BlackBerry, iPhone, iPad and other similar devices. These devices provide the Internet access through a wireless connection, which is usually slower and costlier than a DSL/cable connection. However, the latest 4G networks provide significantly faster connection.

8.3.5 Internet through Local Area Network (LAN)

If your PC is hooked up to a *Local Area Network (LAN)* which is connected the Internet, you can access the Internet through the LAN. This is the common way of providing the Internet access to employees in a typical office, as it enables a single high-speed internet connection to be shared by several PCs. To connect a PC to a LAN, you need a *Network Adapter*, which is usually built in most PCs. Besides, the network adapter, you need an Ethernet network cable to connect your PC to the LAN.

If your PC does not have a network adapter card and you want to install one, you need to get one, open the PC and install it. If you do not want to open the PC, you may get a USB (Universal Serial Bus) Ethernet Adapter, similar to the one shown in Figure 8.1, which fits into a regular USB port.



Fig. 8.1 USB Ethernet Adapter

8.3.6 Wireless Internet Access

Wireless Internet access enables a PC, Laptop, Tablet and other mobile devices to use the Internet without using any cable. However, to access the Internet through wireless, the computer requires a wireless network adapter card, which is usually built in most Laptop PCs. If your PC does not have one, you may get wireless network adapter card or a *Wireless USB Network Adapter*, which is similar to a regular USB Ethernet Adapter, except that it does not have a socket to connect the cable and may have a small antenna attached to it. The second requirement is a *Wireless Local Area Network (Wi-Fi)*, which may be available through a wireless router in homes and offices or *Wi-Fi Hotspots* generally found in coffee shops and other public places, such as airports, railway stations and shopping centres. Normally the W-Fi hotspots provide access free of charge; however, some hotspots may require subscription to have full access.



Fig. 8.2 Wireless Router

8.3.7 Using Router/Wireless Router to Share an Internet Connection

Router is hardware equipment that enables more than one PC to share an Internet connection. The router is connected to the DSL/Cable modem. It has a few jacks to connect PCs directly using Ethernet cables. The wireless router is similar to a regular router; except that it transmits signal to enable PCs and other devices equipped with wireless adapters to connect to the Internet. A wireless router is shown in Fig. 8.2.

8.3.8 Internet through Mobile Phone Network

PCs, mobile phones and other devices can access the Internet using the mobile phone network. The concept is similar to the dial-up connection, except that the connection goes through the mobile network. To use the mobile phone network, the PC needs a modem. As this modem is usually not built into PCs and Laptops, you require a device, which is called USB Mobile Stick, also known by other names as USB modem, USB stick, Wireless modem, Netconnect, Photon and Mobile Internet Stick. A USB Mobile Stick is shown in Fig. 8.3. This is a small device that connects to the



Fig. 8.3 USB Mobile Stick

USB port on the Laptop, Netbook or even the Desktop computer. It connects to the Internet through the wireless network provided by mobile phones service providers. This kind of Internet access is good for frequent travellers or who need the Internet access on their Laptops outside their home and offices. The speed of the Internet access on the mobile network depends on the deployed technology. There are three types of technologies—Second generation (2G), Third generation (3G) and Fourth generation (4G), also known as LTE (Long Term Evolution). The 4G technology provides the fastest connection.

8.3.9 Internet through Satellite

Satellites are used to provide the Internet access in remote areas. The speed of the Internet access through satellite is comparable to those through DSL and cable, however, this technology is very costly. As the communication through satellite requires clear line of sight and is affected by rain and moisture, the Internet access is not very reliable.

8.4 USING THE INTERNET



You may ask – “What can I use the Internet for?” Well, that depends on what you want to use it for. The three most popular applications of the Internet are the World Wide Web, the electronic mail (e-mail) and finding information.

8.4.1 World Wide Web

World Wide Web (also called just the *web*) is a huge system of multimedia documents located on millions of computers throughout the world. These documents, called the *web documents* or *webpages*, follow the *HyperText Markup Language (HTML)* standard. A typical web document contains links to other web documents or to other locations within the same document. These links are called *hypertext links* or just *links*. A link on a webpage is usually represented by an underlined text of different colour (usually blue) or graphics. When you click a hyperlink, it usually takes you to the corresponding webpage or to a new location in the current document. The processes of viewing different web documents by jumping from one document to another is commonly referred to as *web surfing*. To navigate web documents, you need the software called the *web browser* (usually shortened to just the *browser*). The three popular web browsers for Windows based PCs are Internet Explorer, Mozilla Firefox and Google Chrome.

8.4.2 Electronic Mail (E-mail)

Electronic mail (e-mail or email) enables you to send a message in electronic form to any user who has an e-mail address. E-mail works on the store and forward method and involves two or more *mail-servers*. The message is first sent to the sender’s mail-server, which in turn sends it to the recipient’s mail server. The recipient’s mail server then delivers the message in the recipient’s *mail box*, and the recipient may read the message. Depending on the volume of messages being handled by the mail servers involved, the message may take just a few seconds to reach the recipient’s mail box, or may take significantly long time.

8.4.3 Finding Information

Another common use of the Internet is to find information. Students prefer the Internet for looking for information, instead of opening a book, dictionary or thesaurus. Similarly, a modern housewife resorts to the Internet to look for cooking recipes rather than ask her mother-in-law or neighbor! You can find

useful information to fix practically any household equipment. As most of the information on the web is free, more and more people look for the information on the Internet first before trying other resources.

8.4.4 Other Applications of the Internet

Some of the other ways people use the Internet include:

1. **Social Networking:** Several social networking sites have evolved on the Internet that enables people to connect with like minded individuals. People can share information, pictures and videos about their lives and experience through these social networking sites. Some of the most popular social networking sites are Facebook, Myspace, Google+ and Twitter. These sites can help you to find your old friends from school or university, and connect with them.
2. **Buy and Sell Goods and Services:** Internet is being used to sell all kinds of stuff, such as books, magazines, computer software, electronics, computers, flowers, grocery, clothes, music CDs, movie DVDs, clocks, perfumes, etc. Similarly, people are providing all kinds of services through the Internet. For instance, you may prepare and file your Income Tax return through an Internet program. A computer technician sitting in another part of the world may run programs on your computer or even fix a software problem.
3. **Online Banking and Investment:** Online banking through the Internet enables you to complete your regular banking tasks, such as finding balance, viewing recent transactions, transferring funds, paying bills, ordering cheques, etc., through the comfort of your house/office without visiting the bank branch. Similarly, you may do a host of other financial activities, such as buying and selling shares, bonds, mutual funds. The Internet also enables you to do the financial research to help you to take the investment decisions.
4. **Booking and Ticketing:** The use of Internet to book and buy tickets for plane, train and bus is increasing day by day. People can book ticket on the Internet, pay for it using a credit card or by transferring funds from the bank account, and then print ticket details/ticket using the PC. Another common use of the Internet is to book hotel rooms and rental cars.
5. **Download/Buy Music/Software:** The Internet is increasingly being used to distribute music and software. If the music or software is being offered free of charge, one can simply download it from the host site. (Free downloadable software is also called *freeware*.) Sometimes, the software is offered free for trial for a limited period of time. After the evaluation period is over, either the user should pay to continue using it or delete it from the computer. This kind of software that is offered free for limited period is called *shareware*.
6. **Instant Messaging (IM):** Instant Messaging (IM) enables two users to communicate to each other in almost real time through typed text. The communication takes place between the two computers connected through the Internet. Some of the common Instant Messaging programs are MSN Messenger/Windows Live Messenger, Yahoo Messenger, Google Talk, Jabber, ICQ, AIM (AOL Instant Messenger) and eBuddy. The Instant Messaging programs offer a number of additional features, e.g., voice/video communication, file sharing, e-mail and games.
7. **Maps and Driving Directions:** The Internet is increasing being used for finding maps and driving directions. Besides, companies are using maps to display their locations on the Internet search results.
8. **Education and Research:** Most of the economic, scientific and technical research and education papers are being made available on the Internet to the common public. This helps to improve one's knowledge and understanding of common as well as not so common topics. The Internet also

helps scientists, engineers and doctors to exchange their experience and test results. Some people/publishers post free *eBooks* (Electronic Books) that you can read on your PC; to read others, you may have to pay the publisher.

9. **E-Governance:** Governments of various countries are increasingly using the Internet for governance. They use the Internet to provide information about rules and regulations, benefits available to citizens under various programs, electronic record keeping and providing information to the public, collecting information from the public, communicating performance of various Government Departments/Ministries, tax collection, enabling citizens to apply for birth certificate/passport, file Income Tax Return, etc.
10. **Play Games:** The internet enables users sitting in different locations, even different countries to play multi-user games. Card games, chess, checkers are quite popular among Internet gamers.
11. **Sharing Pictures and Videos:** The Internet enables people to share their pictures and videos. Once the pictures/videos have been put on the Internet sites, these are available to the whole world. Some of the free popular sites for putting pictures are Flickr, Picasa and Instagram. The most popular website to watch video on the Internet is YouTube. Any one with an Internet connection can upload a video clip to the YouTube site for the entire world to watch.
12. **Internet Radio and TV:** The Internet radio enables you to play the radio station of your choice on your computer. Hundreds of Internet radio stations from all over the world provide live contents 24 hours a day. You can choose the radio station of your choice to enjoy it while working on your computer. Besides providing live broadcast, some websites allow you to choose past programs to listen to, or download programs of your choice to your PC and listen to them later at your convenience. (Distributing an audio program from an Internet site to PCs is also known as *podcasting*.) Similar to the Internet Radio, the Internet TV enables you to watch TV programs on your computer.
13. **Internet Telephony:** The Internet Telephony makes use of the *Voice over Internet Protocol* (VoIP), which uses the Internet to place voice calls. Since it makes use of the existing Internet, it usually costs less to make a call through VoIP as compared to using the regular phone service. The voice quality of Internet calls varies depending on the traffic on the Internet. An Internet phone looks like a regular digital phone and is usually connected to the USB port of the computer or a phone modem. Even wireless Internet phones are available that automatically search for available wireless Internet network to make calls. An Internet phone can place calls to another Internet phone or a regular landline/mobile phone. One advantage of an Internet phone is that you may take it with you anywhere in the world (where the Internet is available) to make/receive calls.
14. **Ease of Operations for Charitable Organisations/NGOs:** The Intranet has enabled charitable organisations/NGOs to inform the public about their activities and collect funds. As people can visit the website of a charitable organisation/NGO to get in-depth knowledge about its activities, they are more willing to donate. Besides, the facility of online payment using credit cards also increases chances of people making the donation.

8.4.5 Web Address

You may be wondering that if there are billions of documents available on so millions computers, how we view a particular document. Well, it is not as complicated as it may seem. Each piece of information on the web is given a unique address, called the *Uniform Resource Locator* (URL), also known as the *web address*. Let us have a look at a sample URL to understand it.

http://www.sample.com/homepage.html

The above URL consists of three parts:

- 1. http://** The first part of the URL specifies the name of the *protocol*. The *Hypertext Transfer Protocol* (HTTP) is the Internet protocol used to transfer information on the web. In other words, the HTTP protocol is used to display webpages in the *browser*. The Internet supports a number of other protocols, such as FTP (File Transfer Protocol), SMTP (Simple Mail Transfer Protocol), TELNET (Telecommunication Network), POP3 (Post Office Protocol Version 3) and IRC (Internet Relay Chat). Although there are so many protocols, HTTP is the most popular, and usually the browser defaults to this protocol. Thus, if you enter **www.sample.com**, the browser automatically changes it to **http://www.sample.com**.
- 2. www.sample.com** The second part of the URL is the host name or the name of the computer where the webpage is stored. This is also called the *domain name*. In fact, the domain name is used in the URL only for the ease of use; the actual address assigned to each computer is called the *Internet Protocol* (IP) address, which consists of a four part number, such as 64.236.16.20. When you enter a URL containing a domain name, it is automatically converted into the corresponding IP addresses by the Internet.
- 3. homepage.html** The last part of the URL is the *file path*, which specifies the *file name* and *path* where the requested page is located on the host. In the above example, the page (the homepage.html file) is located at the root level. If the required page is located in a subfolder, the file path includes a folder name, e.g.,

http://www.sample.com/sale/salepurchase.html

That is, the URL **http://www.sample.com/sale/salepurchase.html** refers to a webpage (salepurchase.html), located in the folder (directory) **sale** on the domain **www.sample.com**.

8.4.6 Top Level Domains (TDLs)

The part of the domain name, after the last dot, is called the *top level domain* (TDL). For instance, in **www.cnn.com**, “com” is the TDL. Other TDLs that you may come across are edu, gov, org, net, info, etc. The TDL normally refers to the type of organizations that owns the domain. For example, the TDL **com** is usually owned by commercial companies, **edu** by educational institutions, **gov** by government organizations and **org** by non-profit/charitable organisations.

When the Internet initially evolved, no one had any idea that it may become international, hence no provision was made to include the country code or reference in the domain. Later on, a unique two character code was assigned to each country, e.g., **in** to India, **uk** to United Kingdom, **fr** to France and **ca** to Canada. Hence, a domain ending in “**in**” suggests that the domain is owned by an Indian company. For a country specific domain, the type of the organization is available in the characters preceding the dot before the country characters. For instance, **india.gov.in** indicates that this is a government organization belonging to India. In country specific domains, commercial organisations use ‘co’ in the domain name, e.g., **www.sbi.co.in**.

Note You should not form an opinion about an organization based on its domain name. For instance, a charitable organization may use the **com** TDL and an Indian company may not use “.in” its domain.



8.5 BROWSING THE WEB

As you know, to view a web document, you need the browser software. You have a number of browsers to choose from depending on the operating system on your computer and your preference. Some of the common web browsers are Internet Explorer, Mozilla Firefox, Google Chrome, Safari and Opera. Safari is mainly used on Mac OS (Apple), and Internet Explorer, Mozilla Firefox and Google Chrome are common browsers on Windows based PCs.

8.5.1 History of Browsers



Browsers started appearing for the PC market in early 1990s. Whereas various companies launched several browsers, Netscape Navigator became the most popular browser on the Windows based PCs. Later, when Microsoft started bundling Internet Explorer with its operating system, it became very popular. In spite of having near monopoly of the browser market share around 2004, Internet Explorer was never a perfect product and lacked a number of features users wanted to have.

Since 2004, the Mozilla Firefox (commonly called just Firefox) has steadily gained popularity in the browser market. The two most important features of Firefox that encouraged users to switch are *tabbed browsing* and *security*. Tabbed browsing allows multiple webpages to be viewed in the same browser window. Microsoft added the tabbed browsing feature in the new versions of Internet Explorer. Google Chrome, developed by Google and released in September 2008 has quickly very popular.

Your computer may have one or more browsers installed. As a browser is mainly used to view the documents stored in computers connected to the Internet, you should connect to the Internet before trying to start the browser. If you are accessing the Internet through a LAN or a DSL/cable connection, your computer normally automatically connects to the Internet when it starts. On the other hand, if you are using a dial-up connection or mobile network, connect to the Internet as per the instructions provided by your ISP. Typically you just need to double click the corresponding icon on your desktop to connect to the Internet.

8.5.2 Starting Internet Explorer

If you are using a PC running Windows 95, Windows NT, Windows 98, Windows Me, Windows 2000, Windows XP, Windows Vista, Windows 7 or any other Windows-based PC which is not more than 10 years old, you should have some version of Internet Explorer installed on your PC. As of January 2014, version 11 is the most recent release of Internet Explorer for Windows 7 and Windows 8. You start Internet Explorer in the same way as you start any other program (e.g., Microsoft Word or Excel).

- You may be able to start Internet Explorer by choosing Internet Explorer from the Windows Start menu, double clicking the Internet Explorer icon on your desktop or clicking the Internet Explorer icon on the taskbar. The Internet Explorer icon looks like  or .

On starting Internet Explorer (also called launching Internet Explorer), you see the Internet Explorer window similar to the one shown in Fig. 8.4, which is displaying the Google page (www.google.co.in) in Internet Explorer 11. Internet Explorer loads the *home page* defined in the browser in the Internet Explorer window when it starts. A different home page may be defined in your browser, thus the Internet Explorer window may look significantly different from the one shown in Fig. 8.4. Notice that Internet Explorer displays the URL of the current page in the Address bar.

Address Box displaying the URL (address) of the current webpage

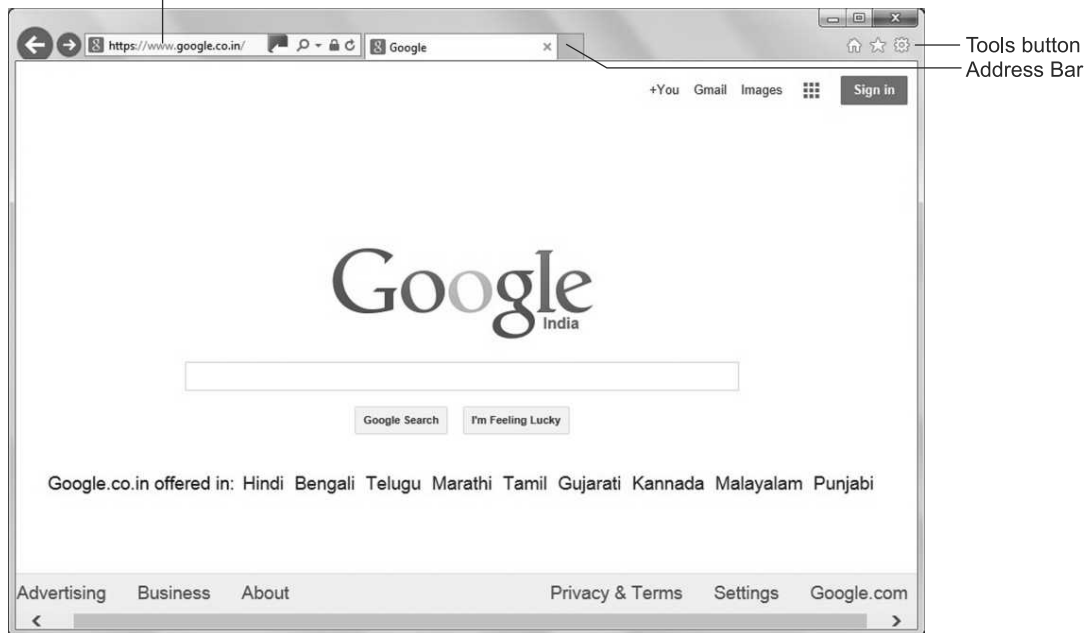


Fig. 8.4 Internet Explorer 11 displaying a webpage

If you are running Internet Explorer 10 or earlier version, the top portion of the screen may look slightly different from that shown in Fig. 8.4.

Note Internet Explorer 10 and later are not supported on Windows XP and older operating systems. Internet Explorer 6 and earlier don't support tabbed browsing, however, these have almost all other basic features.

The Internet Explorer windows looks similar to any other Windows based program window:

- ◆ The *title bar* at the top has typical buttons to minimize, maximize/restore and close the window.
- ◆ The first bar under the title bar is called the *address bar*, which enables you to view any webpage by entering its address. The address box may also be used to search the web.
- ◆ The next bar, called the *Favorites bar* is used to quickly open your favorite websites. This bar is off by default in Internet Explorer 11.

Internet Explorer 11 has several other toolbars, such as Menu bar, Command bar, Status bar and Bing bar. All these bars are off by default to give more space to view the websites you visit.


- To turn on any bar, right click the mouse on any empty space on any toolbar or the title bar to display the context menu and click the corresponding option on the menu. Use the same procedure to turn off any bar.

Rest of space in the Internet Explorer window is used to display the contents of the webpage.

Note If you are using an older version of Internet Explorer and your operating system is capable of running the newer version, we recommend that you download the latest version from www.microsoft.com/download

8.5.3 Starting Mozilla Firefox

You may start Mozilla Firefox (hereafter called just Firefox) in the same way as you start any other program.


- You may be able to start Firefox by choosing the Firefox program from the Windows Start menu, double clicking the Firefox icon on your desktop or clicking the Firefox icon on the Taskbar. The Firefox icon looks like .

On starting the Firefox browser (also called launching Firefox), you see the Firefox window similar to the one shown in Fig. 8.5. Figure 8.5 displays the Mozilla Firefox Start Page. Like Internet Explorer, Firefox loads the *home page* defined in the browser in the Firefox window when it starts. On your PC, you may see a different home page, as some other page might have been defined as the default page.



Fig. 8.5 Mozilla Firefox displaying the Mozilla Firefox Start page

8.5.4 Starting Google Chrome

If you have the Google Chrome browser installed on your PC, you may start it like any other Windows program. The Google Chrome icon looks like . Figure 8.6 shows a webpage displayed in the Google Chrome browser.

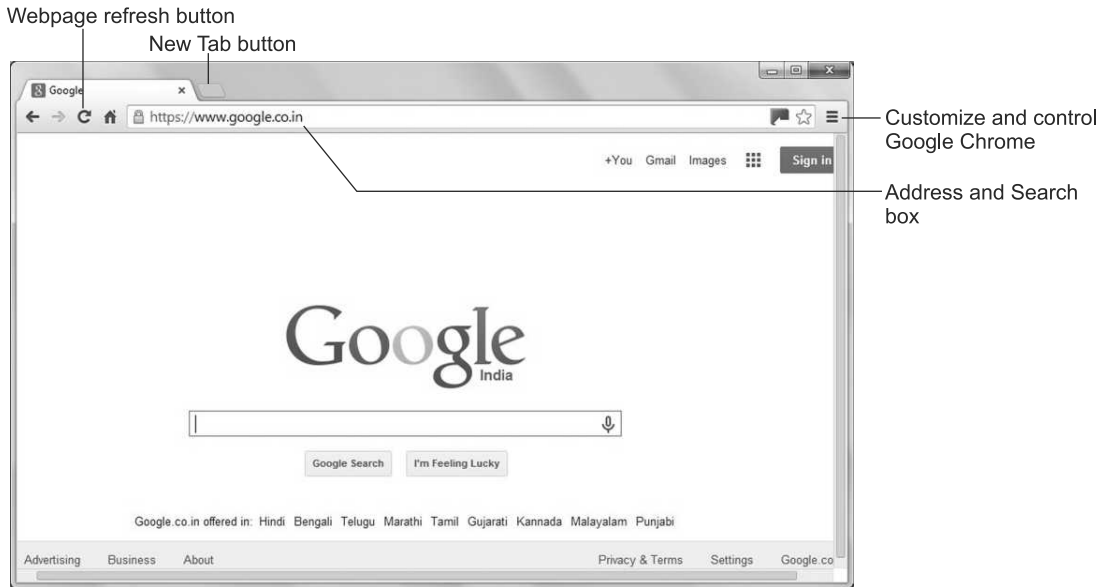


Fig. 8.6 A webpage displayed in the Google Chrome browser

8.6 WHICH BROWSER TO USE?



As you know, three most popular browsers for Windows-based PCs are Internet Explorer, Firefox and Chrome. Windows-based PC usually come with the Internet Explorer browser installed and therefore most users have their first browser experience with Internet Explorer. While Internet Explorer 6 lacked some major features, particularly the tabbed browsing, for an average user, the latest versions of Internet Explorer, Mozilla Firefox and Google Chrome have comparable features. Though you will find nearly all features in all the three browsers, the user interface in these is somewhat different and Chrome and Firefox may load websites a little faster than Internet Explorer.

Whether you should continue to use Internet Explorer or switch to Firefox or Chrome is your personal choice. Since you may download Firefox and Chrome for free, there is no harm in trying these, and then you may decide which browser you like.

8.6.1 Getting Firefox

The easiest and most common way to get the Firefox is by downloading it from the Firefox website. The Firefox download file is quite small, so the download should not take much time. Use the following simple steps to download Firefox:

- Connect to the Internet if required and start your existing browser. Now, enter **www.getfirefox.com** or **www.mozilla.com** in the address bar to open the Mozilla website.
- Click the **Firefox – Free Download** link. This link, which displays the Firefox logo, is good to download Firefox for Windows for English. For other systems/languages, click the **Systems and Languages** link. Firefox is available in several Indian languages.

Firefox displays a new page in the browse window that explains the steps required to download and setup Firefox. Before the download starts, Windows displays a security warning message similar to the one shown in Fig. 8.7. Your computer may also display other warning messages.

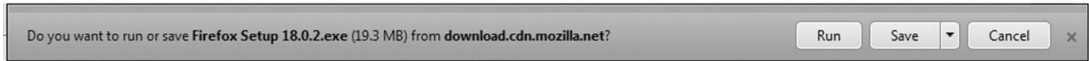


Fig. 8.7 Security warning message

- Click the **Run** button and the download starts which may take several minutes to complete, depending on the Internet speed. After the download is complete, Windows may display another message box with the *Run* and other options. On clicking the **Run** button, the installation process starts. Just follow simple on-screen instructions, and the installation process should be over soon, and you are ready to use Firefox.

When you start Firefox for the first time, if you prefer, it can import your current settings, such as Internet Options, Cookies, Browsing History, Passwords, Favorites, etc., from Internet Explorer to Firefox. Figure 8.5 displays the default Firefox home page.

8.6.2 Getting Chrome


You may download the Chrome browser within seconds from its official website. Use the following simple steps to download and install Chrome:

- Connect to the Internet if required and start your existing browser. Next, enter **www.google.com/chrome** in the address bar to open the Google Chrome website.
- Click the **Download Chrome** button to download Google Chrome for Windows 8/7/Vista/XP.
- You see a new webpage that requires you to click the **Accept and Install** button to accept the terms and conditions and install the Chrome browser on your PC. It also has a check box to set Google Chrome as the default browser on your PC. On clicking this button, the download and installation process starts, and after the installation process is complete, the Chrome browser automatically starts. Like Firefox, Chrome too can import the settings from your existing browser.

8.7 EXPLORING THE WEB



You have setup your browser, it is up and running and is displaying a default page. Now you are ready to explore the Web, which contains billions of web documents. However, unlike the pages contained in a book, the webpages are not arranged in a sequence. First, these pages are located on millions of separate computers. Even pages located on the same computer are not arranged in a sequence. These are physically separate pages though most pages have *links* that contain the URL of other pages. Those “other pages” may be available on the same computer or a computer located anywhere on the Internet. This scheme is illustrated in Fig. 8.8.

Notice that some text, such as North Korea, Pope Benedict XVI, Main Page, Contents, on left page are displayed in different color. When you move the mouse pointer on such text, the mouse pointer shape changes to the hand symbol like . The changed mouse pointer shape indicates that the text contains a *hypertext link*, which contains the URL for a web document. A typical webpage contains one or more hypertext links (commonly called just *links*). If a page contains multiple links, these may refer to the same or different webpages. When you click a link, the browser tries to load the corresponding

document. The new web document may have more links, which point to other web documents. For instance, the North Korea document in Fig. 8.8 contains *Create account*, *Log in* and other links. Thus, you jump from the first document to the second, from the second to the third, and so on using links. This is also known as *web surfing*.

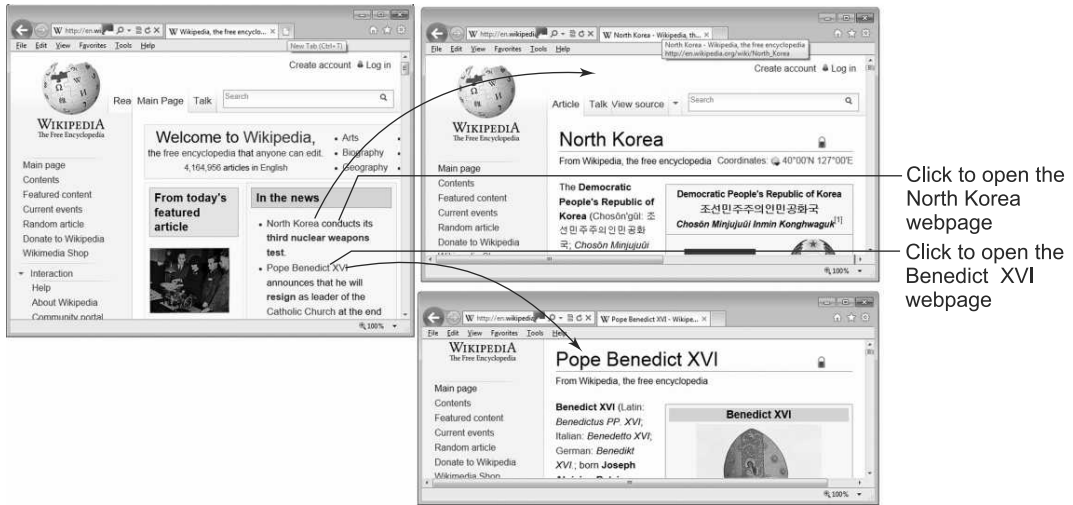


Fig. 8.8 Concept of Linked pages

In the earlier days, most links were shown in blue underlined text. However, webpage developers follow their own standards. Thus, you find links in different colors in different webpages, however, when you move the mouse pointer on a link, the shape of the mouse pointer changes. Optionally, the link style, e.g., its color, underline, background or size may change when you move the mouse pointer on a link.

8.7.1 Image Hyperlinks

In the early days of the Internet, when webpages contained mostly text, the links were also designed using text. However, as websites started using images, *Image Hyperlinks* started appearing in webpages. An Image hyperlink displays an image which contains the URL for the corresponding page. On clicking the Image Hyperlink, the browser loads the URL specified in the Image Hyperlink. Image hyperlinks are commonly used in picture galleries and websites that sell products. Figure 8.9 displays a webpage that uses Image hyperlinks.

8.7.2 Moving Back and Forward

When you use links to view a new page in the browser, it remembers the pages you viewed (also called visited) earlier. Thus, after reading the current page, if you want to go back to the previous page, you may do so by clicking the **Back** button. Similarly, you may use the **Forward** button to go forward a page. The Back button looks like a left pointing arrow, and the Forward button like a right-pointing arrow on the Buttons toolbar.



Fig. 8.9 A webpage with image hyperlinks

Sometimes you may notice that Forward and/or Back buttons on the toolbar are greyed-out, and nothing happens when you click the button. When a button is greyed-out, it means that it is disabled. The browser automatically enables and disables these and other buttons on the toolbar as applicable. For instance, if you have just started the browser, it has no page to go forward or back, and therefore both Forward and Back buttons are disabled.

Tip In Internet Explorer, Firefox and Chrome, you may press Alt + ← (Alt Left Arrow) keys to go back or Alt + → (Alt Right Arrow) keys on your keyboard to go forward.

8.7.3 Using the Menu to Go to Recently Visited Page

If you have visited several pages in the current browser session and you want to go to a specific page, your browser can display a list of recently visited pages to choose any page.

- To display this list, right click the mouse on Forward or Back button located near the top-left corner (see Fig. 8.10). Then click the desired page to ask the browser to display it.



Right-click here to display the list of recently visited pages

Fig. 8.10 Display of recently visited pages in Internet Explorer

The Back and Forward buttons enable you to quickly go to a recently visited page in the current session. However, if you want to go to a page that you visited yesterday or last week, you can dig into the page visit history maintained by the browser. We will discuss this in Section 8.16.

8.7.4 Visiting a Specific Page

Your friend or colleague tells you about a very interesting webpage and gives you its URL address. If you want to visit that page, enter the URL Address (commonly shortened to just the Address) in the *address box*. The address box is the big text box that displays the address of the current page (see Figs. 8.4 and 8.5). Just enter the address in the address box and press the **Enter** key. Here is an example of a typical webpage address—**http://www.cnn.com/**. While entering the webpage address in the address box, you may skip “**http://**”, thus **www.cnn.com** should normally work. Most browsers are quite forgiving and may accept even if you skip “**www**” or “**.com**”, i.e., **www.cnn** or **cnn.com** may also take you to **http://www.cnn.com/**

8.8 WHAT IS A SEARCH?



There is so much of information available on the Internet that finding the exact information may sometimes be difficult, or even frustrating. To help you find the required information, in fact webpages containing the required information, a number of *search engines* are available. A search engine is a computer program that runs an *algorithm* to find the list of webpages containing the text you ask it to search and display that list in your browser window. Massive arrays of powerful computers of the search engine keep visiting the webpages available on the World Wide Web (WWW) on continuous basis. This has to be a continuous process as the webpages keep changing, and new webpages are added continuously and old pages get removed. The webpages are visited by an automated process called *web crawler* (also known as *web spider* or *web robot*.) Web crawler makes a copy of the webpages, which are later processed by the Search engine to create an *index*. This index is used by the search engine to provide the list of webpages to you when you perform a search. To perform a search, all you need to do is to provide a list of important *keywords* you are looking for in a web document to the search engine. For example, if you looking for Indian Railway Timetable, just use “Indian Railway Timetable” as the search text, and the Search engine would provide you a list. Figure 8.11 displays the result of the search on “Indian Railway Timetable” on Google. Notice that the search found 689,600 relevant pages. The result window contains links that you may click to jump to the corresponding webpage.

The most popular search engine is Google with about 70% marker share in early 2014. The other popular search engines for English documents are Yahoo! and Microsoft Bing. The other source you may find useful to get information is Wikipedia, the free encyclopaedia created by users like you.

8.8.1 Performing a Quick Search

The easiest and quickest way to perform the search is the enter the search text in the address box in the address bar and press the Enter key to ask the browser to perform the search using the default search engine. Of course, there are other ways to search for the information, as you would see in the next section.

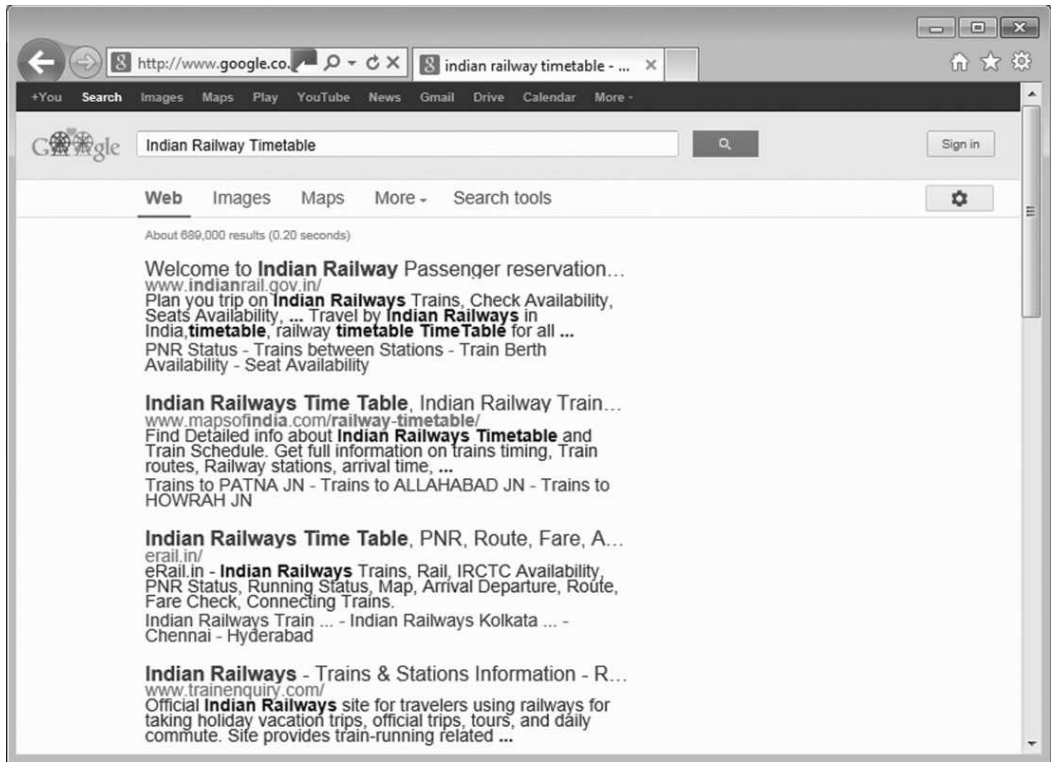


Fig. 8.11 Search results returned by Google

8.9 USING GOOGLE TO SEARCH FOR INFORMATION



Google is the most popular among the Internet users to search for almost anything on the Internet. It is so popular that people often say—"If you don't know something, *Google* it." The reason for its popularity is that its search engine usually provides the most appropriate websites containing the information you ask it to search at the top of the list, even if the search returns thousands of webpages. For instance, look at the results displayed in Fig. 8.11 for the search "Indian Railway Timetable" to appreciate the appropriateness of Google search results. You can use the Google search engine in several different ways.

8.9.1 Using the Google Home Page to Perform a Search

Regardless of the browser you are using, you can perform a search using Google's home page.

- Type **www.google.com** in the address box in the address box and press the **Enter** key.

Google.com may automatically *redirect* you to a country specific home page depending on the IP addresses of your ISP. That is, if you enter **www.google.com** on a computer in India, you may end up at **www.google.co.in**. This is in fact helpful as it gives you an option to search only in webpages from

India. Figure 8.12 displays the Google India home page (www.google.co.in). Google also redirects you to this page if you enter the web address www.google.in.

Tip If you want to use the www.google.com webpage for your search, click the **Google.com** link in the www.google.co.in page. This link is located on the right-right of the page.

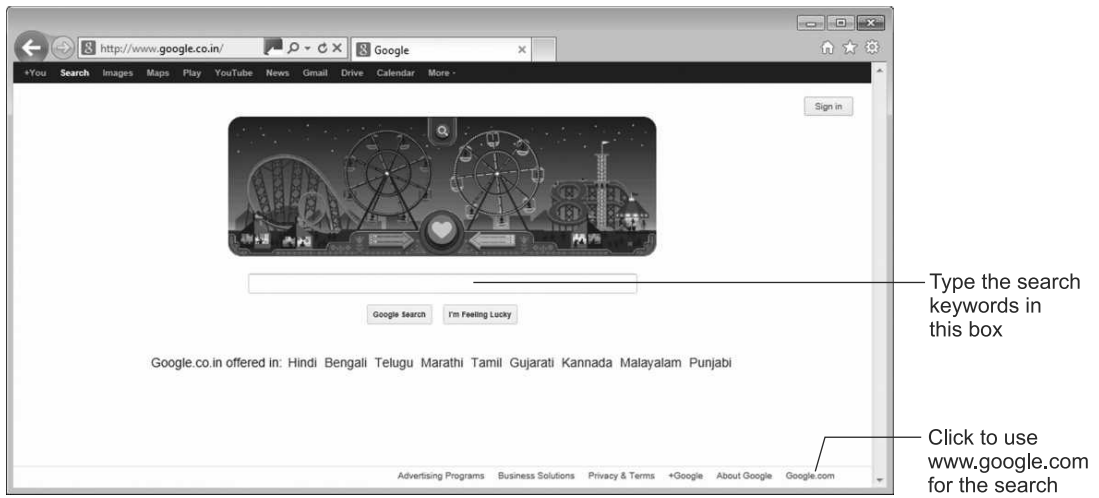


Fig. 8.12 The Google homepage for India

- After you have loaded the Google search page, to perform a search, all you need to do is type the desired *search keywords* in the *search box* located in the middle of the page and press the **Enter** key or click the **Google Search** button.
- Notice that as you start typing search keywords in the search box, Google may display some suggestions that may help you choose the search text. To accept any of the suggested search text, just click the corresponding item.

The browser sends the search keywords entered/selected by you to the Google search engine, which looks in its index for the webpages containing those keywords and sends back the result to your browser window. In most cases, the Google search engine finds several (sometimes thousands) of pages matching your search keywords. Figure 8.13 provides the search results for “Hindi Computer Books.” Besides displaying the search results, the webpage may display advertisements related to the search text.

Note As Google continues to refine the search results display on regular basis to meet the users' expectations, the search information display and its working may differ from that described in the text.

Each search result provides a link to each matching page, relevant text from the webpage, URL of the web document, etc. For instance, consider a sample search result for “Hindi Computer Books”.

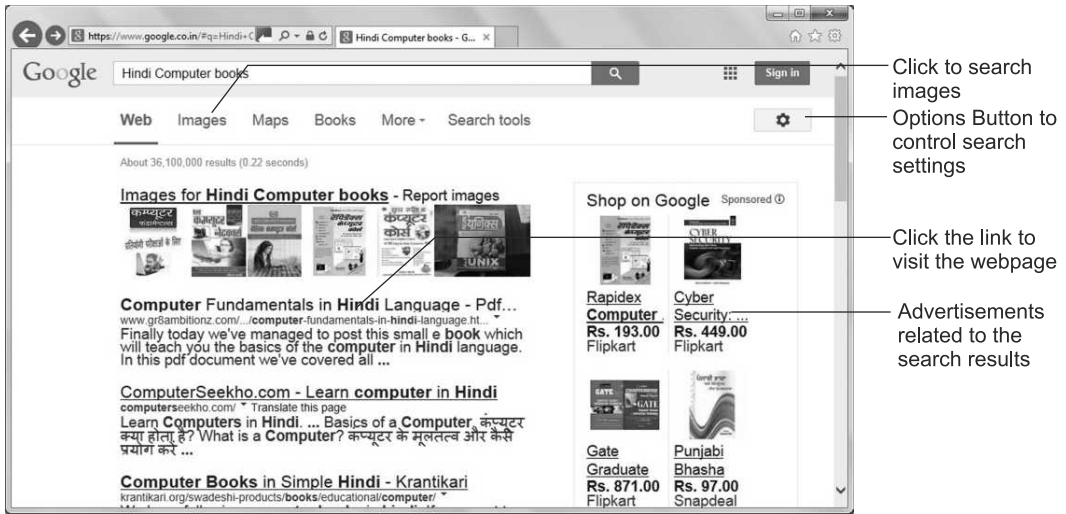


Fig. 8.13 Google search result for “Hindi Computer Books”

ComputerSeekho.com - Learn computer in Hindi
computerseekho.com/ Translate this page
Learn Computers in Hindi. ... Basics of a Computer, कंप्यूटर
क्या होता है? What is a Computer? कंप्यूटर के मूलतत्व और कैसे
प्रयोग करें ...

Click to display a menu with
Cached and Similar options

Click to visit the webpage
while the Google translates
the page to English

In this search result, “ComputerSeekho...” is title of the webpage as well as link to that page. That is, you can click this link to visit the corresponding webpage. Rest of the lines provide the text from the webpage that Google used to select this page with your search keyword highlighted in bold letters. Notice the arrow in the second line of the search result. When you click this arrow, you see two options—*Cached* and *Similar*. If you click the *Cached* link, Google displays the snapshot of the webpage (i.e. the copy of the original webpage) from its own server. As we mentioned earlier, the search engine’s web crawler continuously visits all webpages and makes a copy for the search engine. When you click the “*Cached*” link, the search engine (Google in this case) provides the copied webpage from its server computers. As the original webpage might have changed since the search engine made its copy, you should use the cached version only when the original webpage takes too long to load; has been removed or the corresponding website is temporarily down.

Note Depending on the Google search settings on your PC and the Internet connection speed, Google may start displaying search results as you type search text. To control this behaviour, click the Options button (see Figure 8.13) and choose Search settings.

- When you click a link from the search results, the browser loads the corresponding page. After looking at the page, if you feel that this is not the page you were looking for, click the **Back** button to go back to the Google search results page. Now you may see if some other page might be more relevant for your search keywords.

- If you want to view the webpage in a separate tab, click the mouse while holding the **Ctrl** key pressed. Tabbed browsing is discussed later in this chapter.

When you scroll to the bottom of the search results page, if Google has additional search results to offer, it displays links to navigate to additional result pages, as shown in Fig. 8.14.

- To display the next result page, click **Next** or the **right arrow** link. You may also click the corresponding page links located on the left of the Next link.

If you find that the Google has returned too many pages in the result set and you are not able to find the page you were looking for, you have these options:

- ◆ Redo the search by refining the search keywords. You may change or add the search keywords.
- ◆ Perform Advanced Search.

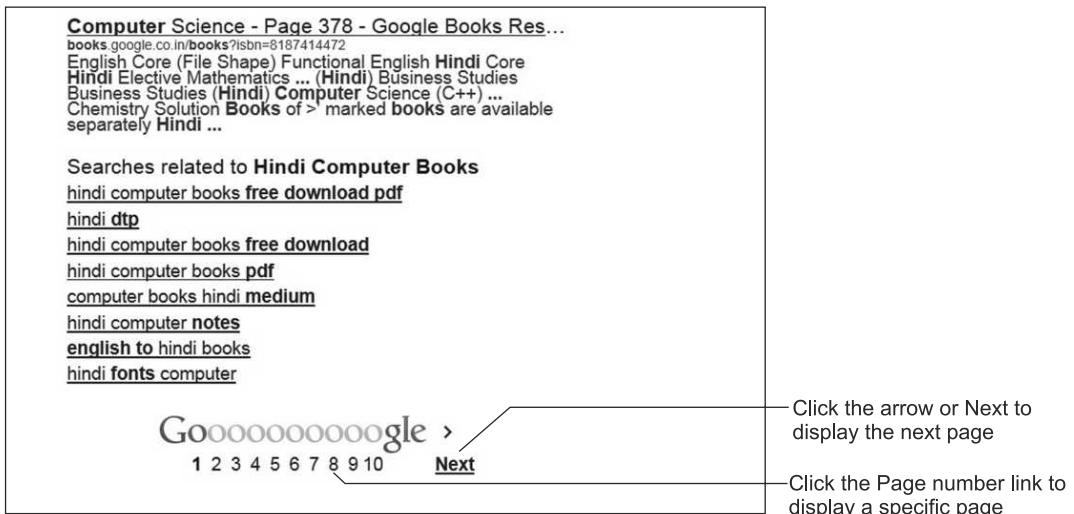


Fig. 8.14 Navigating to additional result pages

8.9.2 Performing Advanced Search

The Google *Advanced Search* can help you to define several parameters to narrow down the results. For instance, you can specify the exact sequence of words that should appear in the webpage, and/or the webpage should not contain specific words. You can also restrict the search to a specific language or region (country) or exclude pages that are too old. You can also specify the type of domain, e.g., .org or .edu.

- To access the Google Advanced Search page, click the **Options** button (see Fig. 8.13) to display search options and click **Advanced Search**. Then enter the relevant details in appropriate boxes or choose desired search options.

Figure 8.15 displays a Google Advanced Search page to search for pages containing “Hindi Computer Books”, which should have the exact words “Published by BPB” but should not contain “Pustak Mahal”.

The screenshot shows the Google Advanced Search page in a web browser. The address bar displays http://www.google.co.in/advanced_search. The page is titled "Google Advanced Search".

Find pages with...

- all these words:** Type the important words: tri-colour rat terrier
- this exact word or phrase:** Put exact words in quotes: "rat terrier"
- any of these words:** Type OR between all the words you want: miniature OR standard
- none of these words:** Put a minus sign just before words that you don't want: ~rodent, ~"Jack Russell"
- numbers ranging from:** Put two full stops between the numbers and add a unit of measurement: 10..35 kg, £300..£500, 2010..2011

Then narrow your results by...

- language:** Find pages in the language that you select.
- region:** Find pages published in a particular region.
- last update:** Find pages updated within the time that you specify.

Fig. 8.15 *Performing Advanced Search*

8.9.3 I'm Feeling Lucky

Notice the "I'm Feeling Lucky" button in Fig. 8.12. If you click this button instead of the Google Search button, Google automatically opens the webpage corresponding to the top of the search result instead of displaying the search results. This may be helpful when you are pretty sure that Google will return the webpage that you are looking for at the top of the list. For instance, if you search for "Government of India Portal" and click the "I'm Feeling Lucky" button, Google automatically opens the www.india.gov.in/ webpage.

Note To use the "I'm Feeling Lucky" button, you need to disable Instant Results. To accomplish this, click the **Options** button on any Google search results webpage and choose **Search Settings**. Next click **Never Show Instant Results** and click the **Save** button located at the bottom of the Search Settings page.

8.9.4 Google Can Do More than Simple Web Search

Besides doing the web search, you can ask Google to search images, news, maps, videos, etc. Notice Images, Maps, Books and More links above the search results in Fig. 8.13. These links are used to perform the corresponding type of search. For example, if you click Images, Google search result contains images that are based on the search text. Figure 8.16 displays the image search result for "Hindi Computer books". You can click an image to go to the corresponding website. Similarly, you can search for news items containing the search text. Google also has options to search in patents and blogs.



Fig. 8.16 Image search results

8.9.5 Google Search via Other Websites

The Google search engine is so popular that many websites put a Google search box on its webpages. These webpages let the user use the search engine to either search in that website (i.e., all webpages available on that website) or in the entire web. If a webpage supports the Google Search, you see the Google logo near the Search button. The webpage shown in Fig. 8.17 uses the Google Search to search the website as well as the web.



Fig. 8.17 Using Google Search via other websites

8.9.6 Using Google in Indian Languages

The Google's search site for India (www.google.co.in) is available in several Indian languages, such as, Hindi, Bengali, Telugu, Marathi, Gujarati, Tamil, Kannada, Malayalam and Punjabi. In future, additional languages may be supported. To use www.google.co.in in any of the supported Indian languages, click the corresponding link located below the search box. Figure 8.18 displays search being done in Hindi. As shown in the figure, while working in [Google.co.in](http://www.google.co.in) in Hindi, you may continue to type in English and Google may suggest matching search text in Hindi.

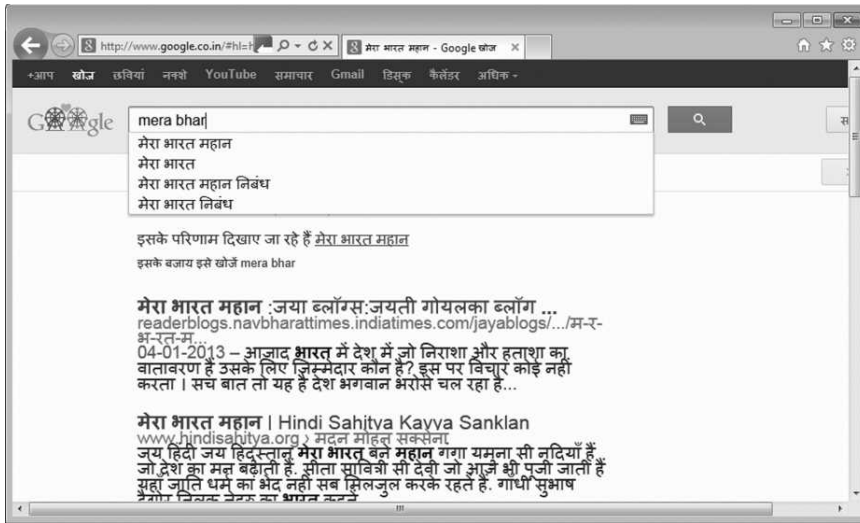


Fig. 8.18 Google search being performed in Hindi

8.9.7 Search by Voice

If your computer is equipped with microphone and speaker and you use the Google Chrome browser, Google displays the microphone icon in the search box, as shown here.



In that case, you may click microphone icon to initiate *search by voice* and Google prompts you to speak. As you speak, Google converts the spoken words in typed text which are used to perform the search. For some searches, it may even speak out the result.

8.10 OTHER SEARCH ENGINES



Besides Google, there are several other search engines—Yahoo and Bing being two popular ones. To use the Yahoo search engines, use **www.search.yahoo.com** or **www.yahoo.com** websites, and to use the Bing search engine, use **www.bing.com**. Doing search on these sites is similar to performing the Google search; you enter the search text in a search box and click the search button. Figure 8.19 displays the Yahoo search being performed. Internet Explorer uses Bing as the default search engine while using the browser address box as the search box; however, you can add search engines of your choice. Firefox and Chrome too allow you to add search engines as well as to choose the default search engine.

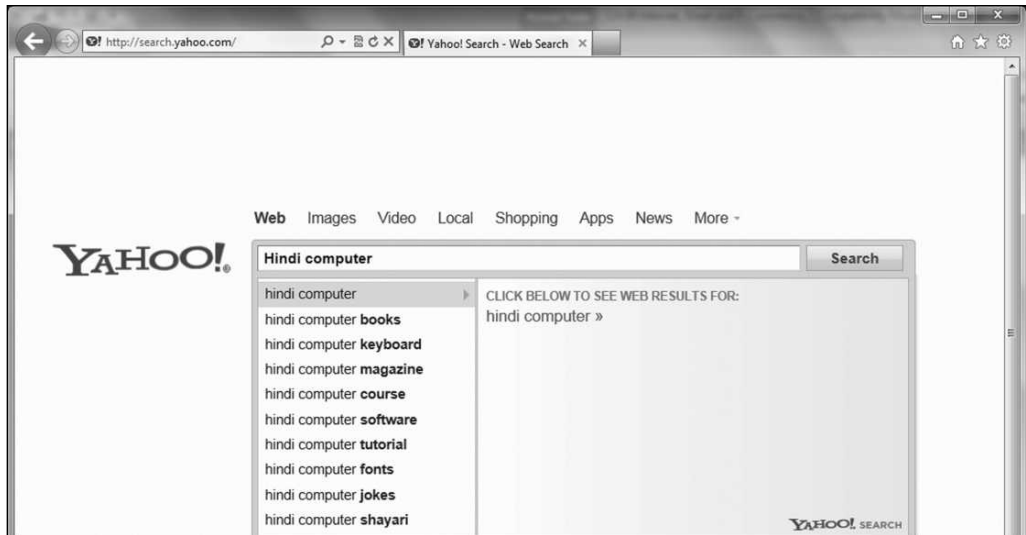


Fig. 8.19 Yahoo Search

8.11 OTHER WAYS TO SEARCH FOR INFORMATION



The current browsers provide other ways to search for information. One way to perform the search is by directly typing the search text in the address/location bar. In addition, Firefox contains a search box that you may use to perform a search. The search box enables you to choose the search engine to perform the search. The browsers also enable you to install additional search engines.

8.11.1 Searching for Words Selected in a Webpage

If you want to search the web for any word(s) that appear in the webpage you are viewing, perform the following steps:

- Select the words that you want to search; double click to select a single word the word and drag the mouse to select multiple words.
- Right click the selected word(s) to display a menu which contains a command, such as 'Search Google for [your selected words]'. If your default search engine is other than Google, you will see that name instead of Google or a similar message, e.g., Search with Bing.
- Click the 'Search....' command to ask the browser to perform the search.

8.11.2 Searching for Text in the Current Webpage

- If you need to check if specified word(s) exist on the current webpage, press **Ctrl+F** keys.

This displays a find textbox where you type the search word(s) and the browser highlights the matching text on the page. The browser displays suitable buttons to move to the next or previous find location.

8.11.3 Wikipedia – The Free Encyclopedia

Wikipedia is a free encyclopedia on the Internet that you may use to find information on almost any topic. Wikipedia is not only free, it is also editable. The beauty is that not only it is editable; anyone

can edit it, including you. Wikipedia is available in several languages. The URL for the main (English) Wikipedia is <http://en.wikipedia.org>, which has over 4.4 million articles in English, and it is still growing. Figure 8.20 displays the webpage for the English Wikipedia. For a detailed article on India, visit <http://en.wikipedia.org/wiki/India>. Most articles are available in multiple languages.



Fig. 8.20 *Wikipedia—free encyclopaedia that anyone can edit*

Searching in Wikipedia is simple—just type the required keywords in the Search box located in the top-right corner and choose the article from the list displayed by Wikipedia or click the Search button. One thing you are sure to notice in Wikipedia articles is that these contain a lot of links (shown in blue color) to other Wikipedia articles. You may click these links to read details about the terms and references used in an article. A Wikipedia article may also have links to external website that may provide additional details about the topic discussed in the article.

The Wikipedia has been created by contributions from the Internet users. If you prefer, you may add an article or edit an existing one. To do so, all you need is to create an account and log-in. Even creating an account is also very simple—you just need to provide a username and password. All new articles or changes to existing ones are watched by volunteers, and if they find any inappropriate material, they remove it.

8.12 HOME PAGE



When you start your browser, usually it loads a predefined page called the *home page*. You are free to redefine the home page, or even use a blank page as the home page. Though not so common, you may even define multiple home pages.

The home page serves two purposes. First, you may ask the browser to load the webpage defined by the homepage when it starts. Second, regardless of the page displayed in the browser, you just need to click the Home button on the toolbar to replace the current page with the home page.

- To load the home page, press the Home button, which looks like  or press **Alt+Home** keys.

Obviously, the home page you would like to define should be the one that you would like you regularly. Most users normally use a home page that lets them do a web search and/or check their email. **www.google.com**, **www.google.co.in**, **www.yahoo.com** and **in.yahoo.com** are a few common home pages. Once you know the page that you would like to be your home page, defining that as the home page is very simple.

8.12.1 Defining a Home Page in Internet Explorer

The easiest way to define the home page is to first load it in the browser. You may directly enter its URL in the address bar, or use a search engine to load one.

- Click the **Tools** button located near the top right corner of the browser window (see Fig. 8.4) or open the Tools menu. Then click **Internet Options** in the menu.

Internet Explorer displays the Internet Options dialog box shown in Fig. 8.21. The list box displays the current home page.

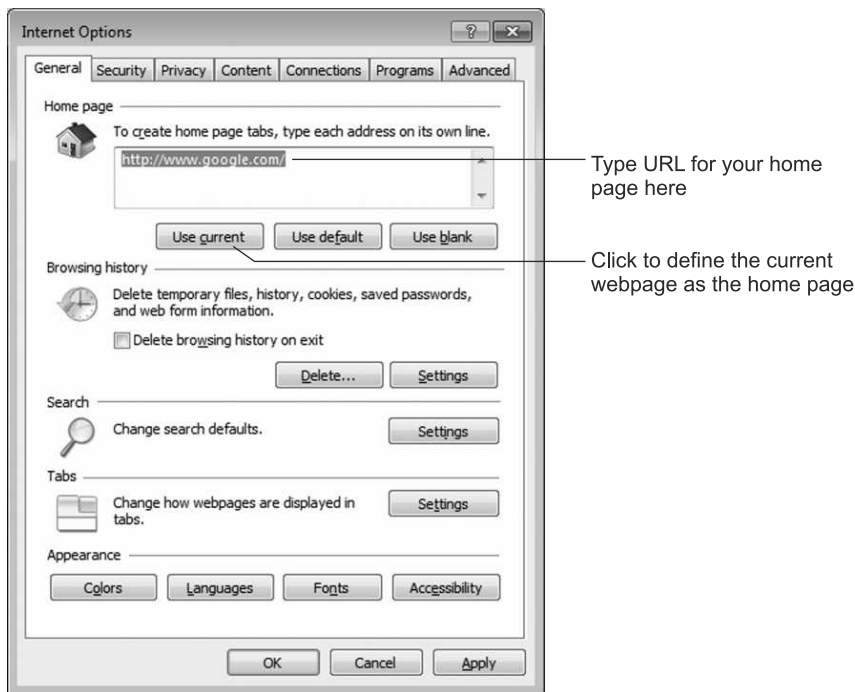


Fig. 8.21 Defining Home Page in the Internet Options dialog box in Internet Explorer

- To define the current webpage displayed in the browser as the home page, click the **Use Current** button. To restore the webpage to the one that was defined when Internet Explorer was first installed

on the PC, click the **Use Default** button. And if you do not want to use any home page, click the **Use Blank** button.

- Finally click the **Apply** button, followed by the **OK** button to close the Internet Options dialog box.

Note Internet Explorer 7 and higher support multiple home pages, which are typed in separate lines in the Home page list box in the Internet Options dialog box. If you define multiple home pages, Internet Explorer loads all home pages in separate tabs when you click the Home button.

8.12.2 Defining a Home Page in Mozilla Firefox

- Load the webpage that you want to define as the home page. Then press **Alt+T** or open the Tools menu and choose the **Options** command to display the Options dialog box shown in Fig. 8.22.

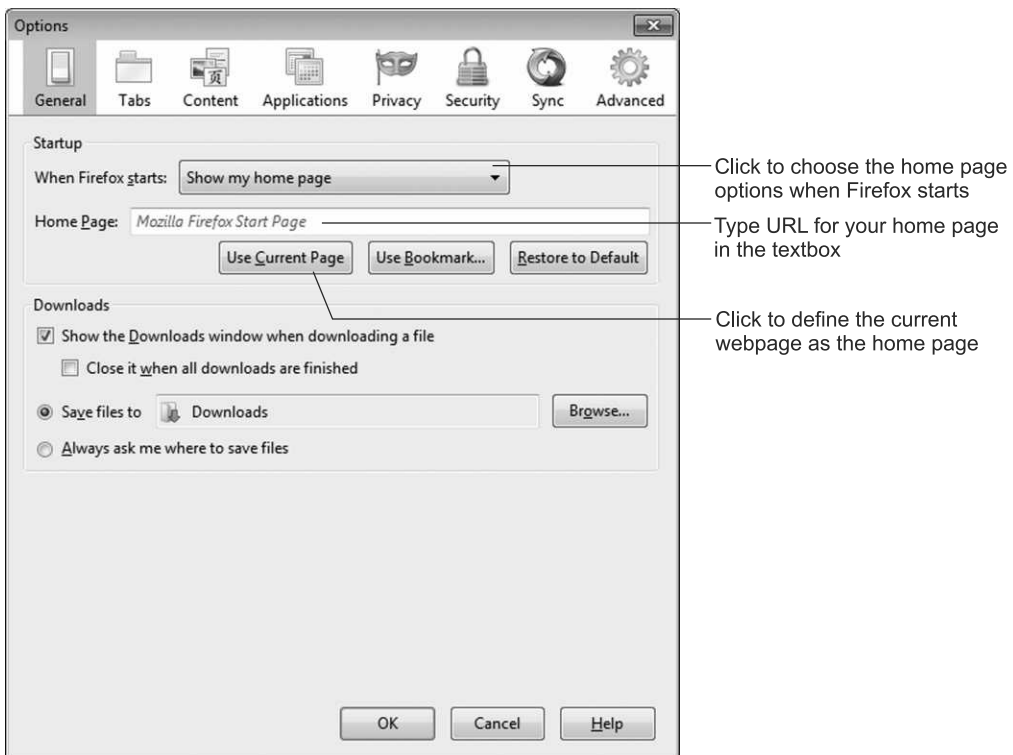


Fig. 8.22 Using the Options dialog box to define the Home page in Firefox

- If the Options dialog displays details for a category other than General/Main, click the **General/Main** category icon located near the top-left corner.
- The Options dialog box displays the current home page in the Home Page text box. To use the current webpage as the Home page, click the **Use Current Page** button. If you want to define a different page as the Home page, enter its URL in the Home Page textbox. To restore the home page to the default one, click the **Restore to Default** button.


In Firefox, you may define a Home page but may ask it not to use it when it starts. You can choose any of the following three options when Firefox starts:

- ◆ Show my home page, i.e., load the defined home page.
- ◆ Show a blank page, i.e., do not load any webpage.
- ◆ Show my windows and tabs from the last time. In other words, restore the last Firefox session.

Tip Defining a Home page but starting with a blank page gives you best of both worlds as the browser starts very fast since it does not load any page, and you can quickly load your home page when you need by clicking the Home button.

8.12.3 Defining a Home Page in Chrome

By default, the Home Page button is not displayed in Chrome.

- To display this button, click , the Customize and Control Google Chrome button (see Fig. 8.6) and choose the **Settings** command.
- Check the **Show Home Button** checkbox in the Appearance section to display the Home button to the left of the address box.
- To define or change the home page, click the **Change** link displayed below the Show Home Button checkbox, as shown in Fig. 8.23.

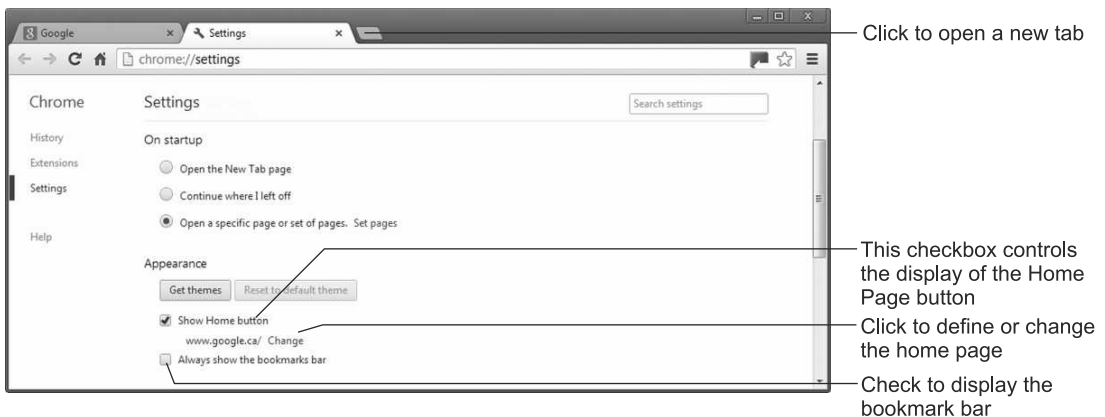


Fig. 8.23 Controlling and defining home page in Google Chrome

8.13 TABBED BROWSING



Tabbed browsing enables you to view multiple webpages in different tabs in a single browser window. Tabbed browsing was first introduced by Firefox and adopted by Microsoft in Internet Explorer 7.

- To open a new empty tab, press **Ctrl+T**, which works in most browsers, including Internet Explorer, Firefox and Chrome.
- You may also open the new tab by clicking the **New Tab** button located on the right of the current tab (see Fig. 8.23.) Internet Explorer and Firefox also have similar buttons to open a new tab.

When you open a new tab, depending on the browser settings, it may display a blank page, the home page or icons of the sites you have visited the most, as shown in Fig. 8.24. This can help you to quickly open a site that you visit frequently. To open a site, click the corresponding icon.

Here are few instructions on using tabbed browsing:

- ◆ When you type the URL of a webpage in the address/location bar, press **Alt+Enter** to open the webpage in a new tab.
- ◆ To open a link in a new tab, press and hold the **Ctrl** key while clicking the link. Alternatively, click the link with the middle mouse button.
- ◆ To close a tab, press **Ctrl+W** or click the close button (X) located on the tab. You can also close a tab by choosing the Close/Close Tab command from the shortcut menu that you get when you right click a tab.

If you try to close the browser window when multiple tabs are open, the browser may display a warning message.

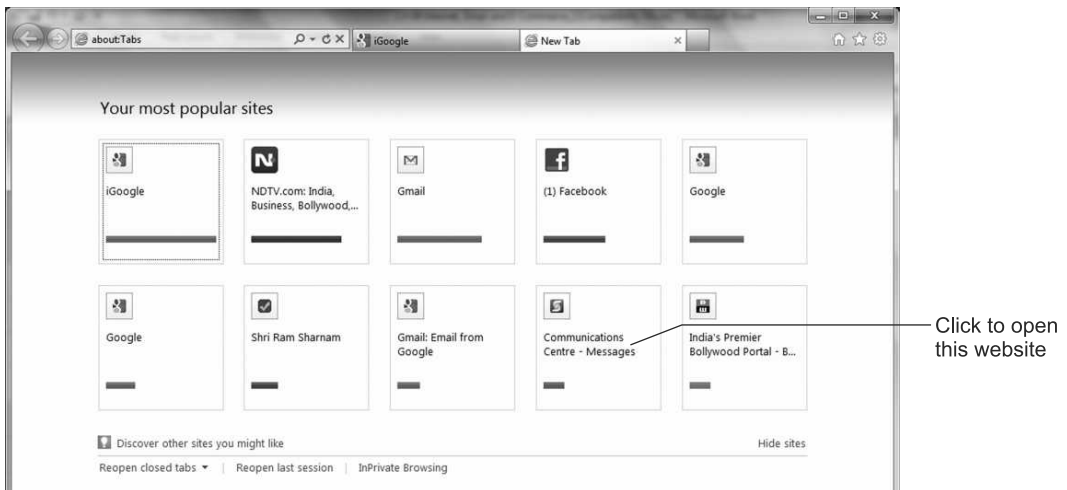


Fig. 8.24 A new tab displaying icons for the most visited sites

Tip You may reposition tabs in the browser window. To reposition open tabs, simply drag a tab to the desired new position. Also, right clicking a tab opens a shortcut menu that includes commands to close the current/other tabs and refresh current/all tabs.

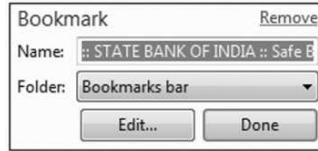
8.14 USING BOOKMARKS



When you surf the web, you are sure to find some webpages that you would like to visit again. Also, sometimes, you locate a particular webpage after considerable search, and you do not want to spend that time again to revisit that page in future. Instead of remembering the URL of the page or noting it down in a notebook, you may ask the browser remember it for you by *bookmarking* it. The process of creating bookmarks is slightly different in different browsers. Besides, bookmarks are called *Favorites* in Internet Explorer.

8.14.1 Creating a Bookmark in Chrome/Firefox

- To bookmark the current webpage in Chrome/Firefox, click ☆ (Bookmark this page) button located on the right in the address box. Alternatively, press the shortcut keys **Ctrl+D**. Chrome displays a confirmation dialog box as shown. Firefox also displays a similar box.



- The Name box displays the title of the page you have bookmarked. You may keep this name or change it to some other easy to remember name. You will use this name later to open the webpage. Finally, click the **Done** button to create the bookmark.
- By default, the bookmarks are created in the Bookmarks bar. If you want to create the bookmark in a different folder, use the Folder or Edit button before clicking the **Done** button.

If you created the bookmark in the Bookmarks toolbar, you should see it on the toolbar, which is displayed just below the address bar. If you don't see the Bookmarks toolbar, you may turn it on.

- To turn on the Bookmarks toolbar in Firefox, right click an empty area on the tabs bar to display a menu and click **Bookmarks Toolbar**. In Chrome, use ☰ to turn on the Bookmarks toolbar. (See Fig. 8.23.) Figure 8.25 displays a few bookmarks in a Chrome browser window.



Fig. 8.25 Bookmarks bar displaying a few bookmarks in Chrome


After you have created bookmarks, you may open a bookmark, i.e., open the webpage represented by the bookmark from the Bookmarks toolbar or other bookmarks folders.

- If the bookmark is available on the Bookmarks bar (see Fig. 8.25), click the corresponding bookmark button to open the webpage. To open bookmarks stored in other folders, you can take the help of the Bookmarks/Other Bookmarks button displayed on the right of the Bookmarks toolbar.
- An alternate way to access bookmarks in Firefox is through the Bookmarks sidebar that you may open by pressing **Ctrl+B**.

Tip You may reposition bookmark buttons on the Bookmarks toolbar by simple drag-and-drop.

8.14.2 Using Favorites in Internet Explorer

Internet Explorer does not use Bookmarks; instead it uses *Favorites*, though both are functionally equivalent.

- To add the current website to the Favorites bar, click  (Add to Favorites Bar) located in the extreme left of the Favorites bar. Alternatively, press **Ctrl+D** to display the Add a Favorite dialog box shown in Fig. 8.26.

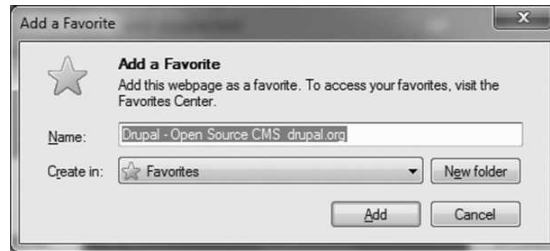


Fig. 8.26 *Creating a Favorite (Bookmark) in Internet Explorer*

- You may type a name for the favorite, if you prefer. By default, the favorite is created in the default folder called *Favorites*. To choose a different folder, click in the **Create in** box and choose the desired folder. You may even create a new folder, if required by using the **New Folder** button. Finally, click **Add** to create the favorite.
- To open a website represented by a Favorite on the Favorites bar, click the corresponding button. To rename or delete a favourite, right click the favourite and choose the corresponding command from the contextual menu.
- To view, open or manage favorites not contained on the Favorites bar, open the Favorites Center (Internet Explorer 7 and later) by pressing **Alt+C**.

8.15 SAVING AND PRINTING INFORMATION FROM A WEBPAGE



While viewing a page, if you come across some information on a page that you want to copy and use in some other document, your browser has some built-in tools to accomplish this.

Caution Most webpages contain copyrighted material. Webpages usually display the copyright notice at the bottom of the page. The webpage owner may not care if you use a few words from the page into your document; however, copying the entire page may not be tolerated, and is against the copyright law.

8.15.1 Saving Text

Saving text from a webpage is quite simple:

- ◆ Drag the mouse to select the text you want to copy.
- ◆ Press **Ctrl+C** to copy the text into the Clipboard. You may also choose the **Copy** command from the contextual menu that you can display by right clicking the selected text.
- ◆ Switch to the word processor or open it, if required. Then open the document where you want to paste the text, move the cursor to the desired location and press **Ctrl+V** to paste the text you copied earlier from the webpage.

8.15.2 Copying and Pasting an Image

You can copy an image from a webpage and paste it into a document with these steps:

- ◆ Right click the image to display the contextual menu and choose the **Copy** command in Internet Explorer or **Copy Image** command in Firefox/Chrome.
- ◆ Switch to the document where you want to paste the image, and press **Ctrl+V** to paste the copied image.

Tip Visit commons.wikimedia.org/wiki/ for freely usable images. It contains over 20 million images and new images are added everyday.

8.15.3 Saving an Image

You can save an image from a webpage to your computer with these steps:

- ◆ Right click the image to display the contextual menu.
- ◆ Choose the **Save Image As** command in Firefox/Chrome or **Save Picture As** command in Internet Explorer. The browser displays a dialog box to save the image, which also displays a default file name, file type and folder to save the image.
- ◆ Type a new file name and/or choose a different folder, if required. The operation of the Save As dialog box is similar to the Save As dialog box you get when you save a new document in Word or Excel.

Tip You can set an image you see on a webpage as you desktop background. To do this, right click the image to displays a shortcut menu and choose the *Set As Background* command in Internet Explorer or the *Set As Desktop Background* in Firefox.

8.15.4 Printing a Webpage

Printing a webpage requires no special technique—press the Ctrl+P shortcut keys or choose the Print command from the File menu/command bar, which is off by default. In response to this command, the browser displays the usual Print dialog box. If you prefer to precisely control the print output, you may use the Page Setup command (from the File menu/command bar) before printing the webpage. The Page Setup command enables you to define margins, header, footer, orientation, etc.

Sometimes when you print a webpage, the output you would see on the printer may be significantly different from the displayed page. This happens if the webpage uses *frames*, a technology that lets the page be divided into independent boxes (frames), with each displaying a separate HTML document. Each frame in a webpage may have its own scroll bars, and when you scroll the webpage, the contents of the frames contained in the page do not move. If you do not see the correct printout when you print a webpage containing frames, click in the frame whose contents you want to print and try the Print command again. (You may like to use Print Preview before using the Print command.)

Tip To help to properly print contents of a webpage employing frames, some webpages (e.g., mail.google.com) include a Print button/link on the webpage. If a webpage contains a Print button/link, use it rather than the browser's Print command to print the page.

8.15.5 Saving a Webpage

- If you want to save a webpage on your computer, press **Ctrl+S** or choose the **Save Page As** (Save As in Internet Explorer) command from the File menu. In response to this command, the browser displays a typical Save As dialog box.



8.16 BROWSING HISTORY

The browser can remember all sites that you visit. This feature, which is on by default, can help you to quickly go to a webpage you visited during the last few days. You can access the list of URLs you have visited in a few different ways.

8.16.1 Choosing a Web Address from the Drop-Down List

Internet Explorer and Firefox browsers can display the list of recently visited webpages in a drop-down list.

- To view recently visited webpages, click the down pointing arrow located on the right side of the address box that displays the URL of the current webpage. (See Fig. 8.27.) Internet explorer too has a similar down-pointing arrow located on the right side of the address box. To choose a website displayed in the drop-down list, click the desired URL.

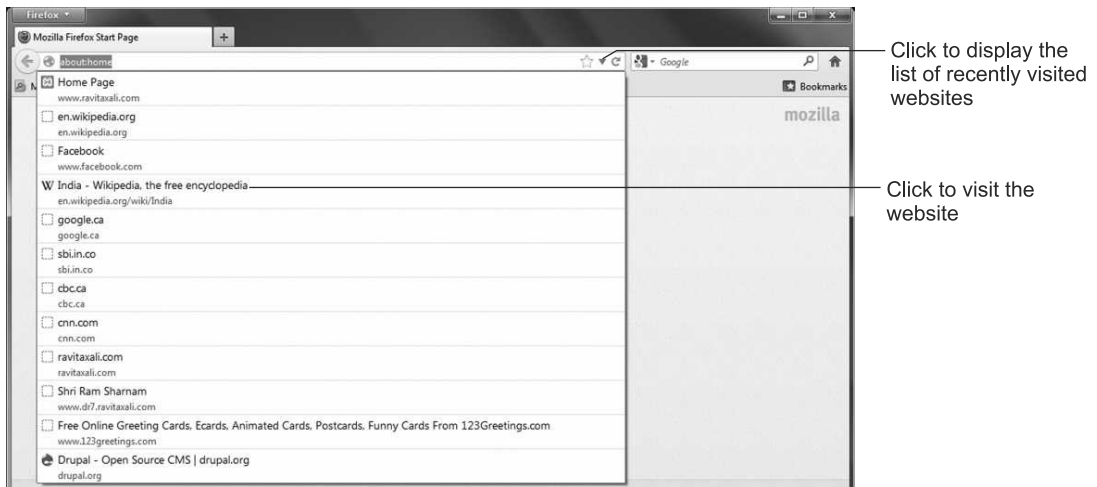


Fig. 8.27 Firefox displaying recently visited webpages

8.16.2 Browser Suggests URL (Web Address)

When you type URL in the Address bar, the browser usually suggests URLs matching the characters you have entered from the list of URLs you visited in the past in a drop-down list. Figure 8.28 displays Internet Explorer offering a few suggestions for the web address being typed. You get similar functionality in Firefox and Chrome.

- To visit a webpage for the URL displayed in the drop-down list, click the corresponding URL. If do not want to use any of the suggested URLs, continue typing the URL.

If you do not see any suggestions when you type the web address in the address bar in Internet Explorer, you need to turn on the *AutoComplete* option for Web Addresses. Perform the following steps to accomplish this:

- Open the Internet Options dialog box from the Tools button/menu and choose the Content tab.



Fig. 8.28 Firefox suggesting URLs

- Click the **Settings** button in the AutoComplete section to open the AutoComplete Settings dialog box. (See Fig. 8.29.)
- Check the **Address bar**, **Browsing History** and **Favorites** check boxes as shown in Fig. 8.29. Other check boxes are used to control the AutoComplete feature when you enter data, usernames and passwords in forms (to be discussed).
- Click the **OK** button to close the AutoComplete Settings dialog box. Then click **OK** again to close the Internet Options dialog box.

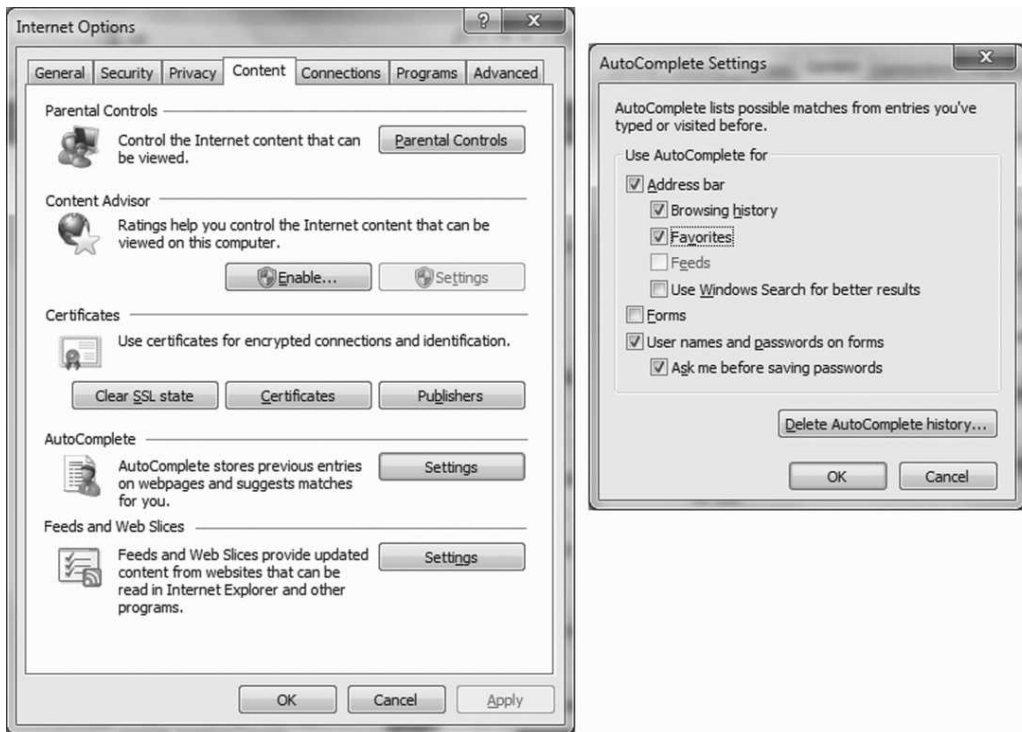


Fig. 8.29 Controlling AutoComplete Settings in Internet Explorer



8.17 LONG-TERM HISTORY

The long-term history presents the list of webpages you have visited in the past few days in an organized manner. That is, you can view the pages you visited yesterday, two days ago, a week ago, and so on. The browser displays the list of URLs of webpages in a History sidebar or in a separate tab (in Chrome).

- To display the History details, press **Ctrl+H**. Figure 8.30 displays the History sidebar for Firefox.
- Firefox can display the history in five different views that you may choose by clicking the **View** button.

The Search box located next to the View button is very useful—just type a few keystrokes for a keyword, e.g., **Gov** if you want to search for a website related to Government, and Firefox would refresh the History sidebar with matching webpages out of all webpages history available in your Firefox browser. Then you just need to click the desired link to open it.



Fig. 8.30 History sidebar in Firefox

- To close the History sidebar, click the **Close** button (X) or press **Ctrl+H**.

The History sidebar in Internet Explorer and Chrome is quite similar to that in Firefox.

- To change the number of days the browser remembers the history, change the appropriate option in the browser options dialog box, e.g., on the Privacy tab in Firefox and Settings button on the General tab in Internet Explorer.
- If you do not want to keep the history, you may choose 0 for the number of days or otherwise disable the option.

8.17.1 Clearing Web Addresses History

Since the web addresses history stored by the browser on a computer is visible to any user who has access to that computer, this raises the question of privacy. Of course, beyond privacy, a large web history takes space on the hard disk. The browser allows you to delete an individual history entry as well as clear the entire history in one stroke.

- While viewing the history in Firefox and Internet Explorer, you may right-click an item and choose the **Delete** command to delete the history entry or entries. The Chrome history page too displays links to remove an item from the history as well as to clear the entire browsing history.
- To clear the entire browsing history in Internet Explorer and Firefox, use the Options and Internet Options dialog boxes, respectively.

8.17.2 Opening Browser in Private Mode

Sometimes you do not want to leave any trace of your web surfing or searches in the browsing history. To accomplish this, you may open the browser in private mode. Most browsers, including Internet Explorer 11, Firefox and Chrome support this mode.

- To open Internet Explorer 9 and later for private browsing, press **Ctrl+Shift+P**. Figure 8.31 displays Internet Explorer opened in private mode. Notice the *InPrivate* icon displayed to the left of the address box.
- To work in the private mode, called the *incognito* mode in Chrome, start Chrome in the usual way and then press **Ctrl+Shift+N** or choose the **New Incognito Window** command from the **Customize and Control Google Chrome** button.

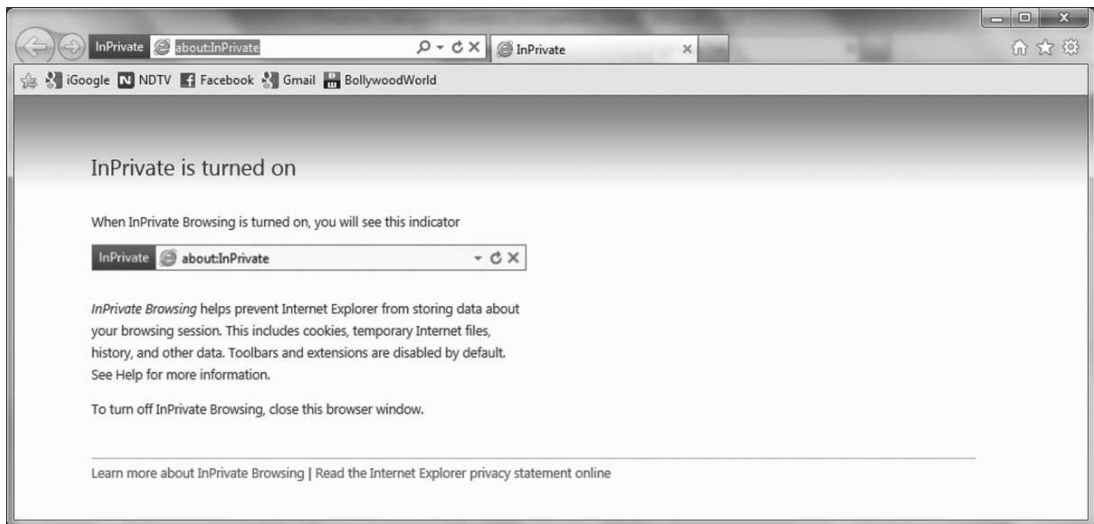


Fig. 8.31 Internet Explorer operating in InPrivate mode

- To operate Firefox in private mode, press **Ctrl+Shift+P**. Fire Firefox may prompts for confirmation. On choosing *yes*, it turns on the private browsing mode.

8.18 PAGE LOADING ISSUES



When you try to visit a webpage, if your computer is connected to the Internet and the page address is valid, usually the browser loads the page within reasonable time. The time it takes the browser to display the requested page depends on several factors, the most important being your Internet connection speed. Besides the Internet connection speed, other factors that affect the page display time

are volume of the Internet traffic being handled by your Internet Service Provider (ISP) and number of people trying to access the website where the page you are trying to access is hosted. Because these conditions may change dynamically, some times a webpage may load fairly quickly whereas at other times, the load time may increase significantly.

If you try to load a page and you don't see it in the browser for a long time, you may get impatient, and may even start wondering whether you are still connected to the Internet. In this situation, look at the animated icon at the left side of the tab shown in Fig. 8.32. The revolving circle icon indicates that the page loading is in progress. Firefox and Chrome also display similar icons on the tabs.



Revolving circle indicates that page loading is in progress

Fig. 8.32 Viewing Page loading progress in Internet Explorer

If you turn on the Status bar, it also provide useful information regarding the page loading progress, such as “Looking for ...”, “Waiting for ...”, “Transferring data from”. If you see some activity on the Status bar and the progress bar is moving, it means that the page is loading. However, if the progress bar is moving very slowly, it is an indication that some process in the page loading sequence is overloaded. You can't do much to speedup the process, except waiting or stop loading the page.


Note Google Chrome displays browser activity in a popup status bar.

8.18.1 Stop Loading a Page

If a page is taking too long to load or you started loading an incorrect page, you may stop the loading process by pressing the Esc key or clicking the Stop button on the Address bar/box, which looks like “X”. After the page has been loaded, the browser replaces the Stop button with the Refresh/Reload button.

8.18.2 Refreshing/Reloading a Page

The page displayed in the browser window is a static page. When you ask the browser to load a page, the browser sends a request for the page to your ISP, which in turn fetches that page from the server computer where the page is available and sends it to your browser to display, and the process finishes. Meanwhile, if the source page has changed, the page displayed in your browser does not change automatically. For instance, consider that you are viewing a page that displays the quote for a stock. Meanwhile the stock price has gone up or down, but the stock quote displayed on your browser window continues to show the old price. To get the latest stock quote, you need to refresh the page.

- To refresh the current page, press the **F5** key on the keyboard or click the Refresh/Reload button, which looks like .

You may also find the browser refresh/reload feature useful if the page loading process stops without completely loading the page due to some unexplained reason.

8.18.3 Page Loading Errors Due to Problems at the Website

As you know that each webpage is hosted on a server computer, which sends back the requested webpage to your browser. If too many Internet users ask for the same page at the same time, the server

computer may become too busy to respond within acceptable time limit. In that event, the browser displays an error message and cancels the page load request. If the website hosting the page is too busy, retrying may load the page later. Sometimes, a website is temporarily taken off-line for software/hardware maintenance or upgrade. In that event, you may try to reload the page after sometime. Usually, most routine website maintenance is done around midnight or during weekend.

The website developers keep updating their websites, which results in new pages being created or existing pages moving from one folder to another. Sometimes, some websites are permanently taken down. When you enter the URL for a webpage or click a link that takes you to a page which is not available, the browser displays an error message, such as

- ◆ The webpage cannot be found
- ◆ HTTP 404 Not Found
- ◆ Not Found
- ◆ The requested URL/homepage.html was not found on this server

8.19 GETTING HELP



The browser has so many features that remembering all these is not an easy task. However, you need not worry as Firefox, Internet Explorer and Chrome provide an excellent online help documentation that you can access any time while using the browser. The Internet Explorer help documentation style resembles that for the help documentation for other Microsoft products, such as Word, Excel and PowerPoint.

- To get help, all you need to do is press **F1** or choose the Help command from the menu, and the browser opens the help window or displays the help information in a new tab. You may also do a web search for your question.

8.20 CHANGING TEXT SIZE IN THE BROWSER WINDOW



Website designers are free to use any font style and font size to display text on webpages. Sometimes, to display large amount of text on a page, the designer may use very small font size. Some people may find it hard to read text displayed in small size, whereas others may not like to read large size characters on the page. You can precisely control the size of the text displayed on a webpage.

8.20.1 Controlling Text Size

- To increase the text size press **Ctrl++** (press and hold the **Ctrl** key and then press the **+** key), or in Internet Explorer, open the **View** menu and choose the **Text Size** command.
- To decrease the text size press **Ctrl+-**, or in Internet Explorer, open the **View** menu and choose the **Text Size** command.
- If your mouse has the scroll wheel, press and hold down the **Ctrl** key and scroll the mouse wheel to change the zoom percentage
- To display the page in the normal size, press **Ctrl+0**.
- Internet Explorer displays a Change Zoom Level button on the right side of the Status bar. This button can help you to quickly set the zoom level to 50%, 75%, 100%, 125%, 150%, 200% and 400% as well as to choose the custom zoom level.

- On laptops and other devices equipped with touchpad, you may be able zoom the page using *two fingers pinch zoom*, as shown in Figure 8.33. As illustrated in the Figure, to zoom using this scheme, place two fingers slightly separated on the touchpad. Move (drag) the fingers outward to zoom-in, and to zoom-out, move the fingers toward each other.

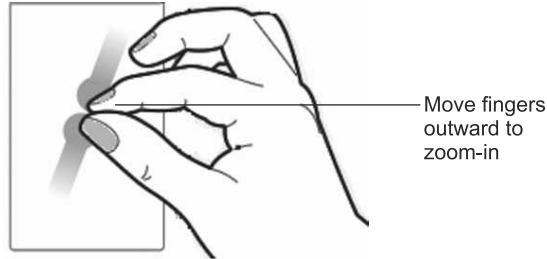


Fig. 8.33 Two fingers pinch zoom on touchpad

Note Some webpages, particularly those that display news may display buttons to enlarge/reduce text size.

8.21 BLOCKING POP-UPS



The *pop-up* is a window that appears on the top of the browser window. A variation of the pop-up window is called *pop-under*, which appears below the browser window. Both pop-ups and pop-under usually appear without your permission and often contain advertisements or other contents of nuisance value. Most current browsers, including Firefox, Chrome and Internet Explorer 7 and higher have built-in mechanism to block pop-ups and pop-under. No browser can always block all pop-ups as pop-up creators may use some technique to bypass the pop-up blocker filter employed by the browser. Besides, you should remember that some websites, particularly those that involve credit card payments, make legitimate use of pop-ups. By default, the pop-up blocker is enabled in Chrome, Firefox and Internet Explorer 7 and higher. If you are seeing pop-ups on your browser window, please check if someone has turned off the pop-up blocker feature.

- In Internet Explorer 7 and higher, on the Privacy tab of the Internet Options dialog box, ensure that “Turn on Pop-up Blocker” check box is checked (✓).
- In Firefox, on the Content category of the Options dialog box, ensure that “Block popup windows” check box is checked (✓).

8.21.1 Managing Popup Blocker Options

When the popup blocker is enabled, if a website tries to open a pop-up (or pop-under) and the browser is able to block it, it usually displays a suitable message and gives you an option to override the block, i.e., allow the website to open the popup.

Note Advanced users may achieve greater control on pop-ups blocking by choosing the pop-up blocker filter level through the Settings button on the Privacy tab of the Internet Options dialog box.



8.22 FORMS ON WEBPAGES

Most webpages display information in the browser window, however, some pages are designed to accept information from you and send it to the *web server*. (The web server is the software/computer which sends the webpage to your browser based on the request it receives from the browser.) Let us assume that you want to book a train or air ticket. Obviously, you need to provide the relevant booking information to the web server to perform the booking. Similarly, if you want to find the flight or train arrival information from a website, you need to provide the flight/train number. In a typical scenario, you enter the required details (e.g., flight number and date) in a webpage in a *form* and send it to the web server. The web server accepts the sent information, processes it and sends the result (e.g., flight arrival time) to your browser, which in turn displays it on the browser window. Figure 8.34 displays a page that uses a form. The sample form shown in figure contains a few input boxes to select/type information, such as from and to city, departure and arrival date, number of passengers, etc., to find the available flights. For accepting information that has limited choices, e.g., city names, number of adults, etc., the form uses a drop-down list box. A typical form uses one or more buttons. The Find button on the form used in Fig. 8.34 sends the entered details to the web server, which accepts and processes the entered details and sends the list of available flights to the browser to display. The button that sends the data to the web server may have any caption—Submit, Find and Go being common captions. Sometimes an image button is used in place of the text button to send (submit) data to the web server. Sometimes, the form may have a Clear Data button to clear all data entered in the form. A form may use other types of visual objects to accept information from the user. Some of commonly used objects are check box, radio button, group button, spinner, slider and calendar.



Fig. 8.34 A webpage containing a form

8.23 SECURE WEBPAGES



As you know, when you enter information in a form on a webpage and submit it, the information travels from your computer on the Internet to web server, which may be located anywhere in the world. The information is sent as plain text which can easily be intercepted as it flows from your computer to

the web server. However, you would not like anyone to know your bank account number, credit card details, etc. when you enter these on a web form. You need not worry as most websites that ask for sensitive information through a web form use a special protocol called HTTPS (Hypertext Transfer Protocol over Secure Socket Layer) as against HTTP (Hypertext Transfer Protocol) used by regular websites. When a browser communicates with a secure website using HTTPS protocol, it *encrypts* the information before sending. The website that receives the information *decrypts* and uses it. In the same way, the browser decrypts an encrypted webpage sent by the website before displaying it in the browser window. The websites that use HTTPS protocol use HTTPS in the URL, e.g. **https://secure.icicidirect.com/NewSiteTrading/customer/login.asp**. Figure 8.35 displays a secure (https) webpage in a browser window. Notice that a secure page URL is displayed with a closed lock icon in the address bar. You may click the Lock icon to view details regarding the authority who issued the security certificate and certificate details.

Caution Never enter any private/sensitive information in a web form if the webpage is not using HTTPS protocol and you do not see the closed lock icon. In case of doubt, view the certificate details by clicking the Lock icon.

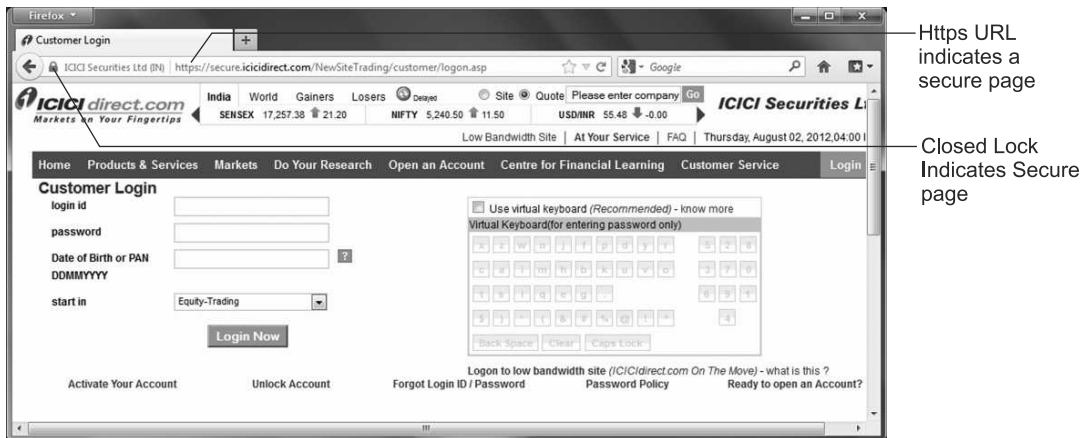


Fig. 8.35 A secure (https) webpage displayed in a browser window

You should not get a false sense of security that any information entered in a secure page is 100% safe. A secure page only ensures that the information cannot be intercepted while it travels between your computer and the web server. However, unauthorized people/computers can still steal sensitive information from the web server where the information is stored temporarily or permanently.

8.24 ASKING THE BROWSER TO REMEMBER THE FORM DATA



Assume that you regularly use a website to buy items. Every time you purchase an item, you need to provide your name, billing address, shipping address, etc. Instead of manually entering the same information on the form, you can take the help of the browser to fill-out forms for you. Most browsers support this feature. If you ask the browser to remember the form data, it would provide you suggestion(s)

as soon as you start typing data in a field. Then you may click the suggestion to accept it or continue typing. Figure 8.36 displays Internet Explorer making a suggestion while entering data in a form.

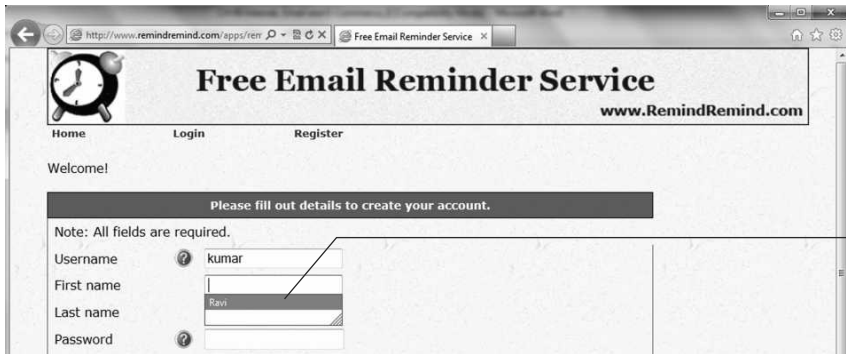


Fig. 8.36 The browser helping to fill data in a form

- To turn on this feature in Internet Explorer, open the Internet Options dialog box and choose the Content tab. Then click the **Settings** button in the AutoComplete section to display the AutoComplete Settings dialog box (See Fig. 8.29) and check the **Forms** checkbox.
- To turn on this feature in Firefox, use the Tools menu or the Firefox button to open the Options dialog box and choose the **Remember History** option in the History section on the Privacy tab.

8.25 ASKING BROWSER TO REMEMBER PASSWORDS



These days, several websites ask you to register and log-in before granting you the access. To register to a website, you need to choose a username (or email address) and password, which you need to remember to log-in later. To make the process more complicated, many websites put certain restrictions on the minimum length and the type of characters you can use in a password. Who can remember dozens of these passwords? When you enter a password, if your browser asks if you want it to remember/save the password, the *remember password* feature is already on; otherwise, you can turn it on.

- To ask Firefox to remember passwords, use the Firefox button or the Tools menu to open the Options dialog box and click the **Security** icon to display the options for the Security category, shown in Fig. 8.37. If the option **Remember passwords for sites** is not checked, click to check it. Finally, click **OK** to close the dialog box.
- To ask Internet Explorer to remember passwords, ensure that **User names and passwords on forms** checkbox is checked on the AutoComplete Settings dialog box. (See Fig. 8.29.) For safety, you may also like to keep **Ask me before saving password** checkbox checked.
- In Chrome, the corresponding settings for saving passwords are available in the Advanced Settings. Use the **Customize and Control Google Chrome** button to open the Settings page and click **Show advanced settings** located at the bottom of the page.

After you have turned on saving passwords, when you visit a website that requires log-in and you enter the username and password, the browser prompts if you want to save the password.

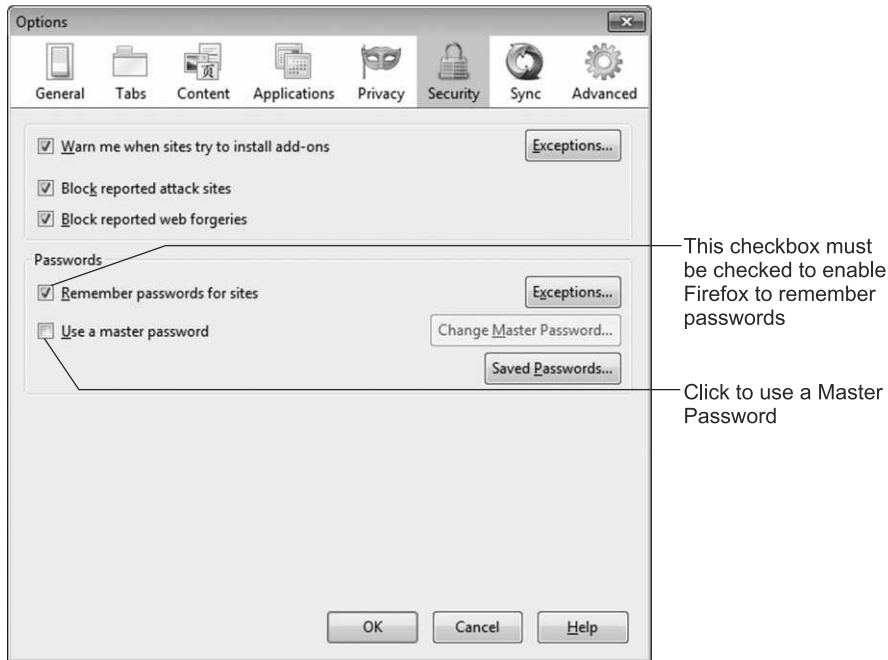


Fig. 8.37 Remembering Passwords in Firefox

Passwords are saved by the browser in quite secured manner. Internet Explorer and Chrome do not provide any option to view the saved password; however, third party programs may be able to reveal saved password. Firefox has an option to view saved password through the Saved Passwords button (see Fig. 8.37), which can be unsafe if other users can access your computer. In that event, for security, you must use the Master Password.

- To set a master password in Firefox, check the **Use a master password** checkbox (See Fig. 8.37.) On choosing to use a master password, Firefox asks you to define a master password. After a master password has been set, you need to provide the master password to view saved passwords.

Caution Do not save password for sites that contain sensitive personal or financial information.

8.26 COOKIES



Each webpage displayed in a browser window is just a bunch of text, images and similar information. The page display process is a *stateless* transaction, i.e., the first page retrieval by a browser from a website is not linked to the second page retrieval. Now, assume that you are trying to buy items from an online shopping website and in the process search the website and add one item at a time. As you choose items and add these to your online shopping cart, the website needs to refresh the webpage to display your current selection. Since, the webpage display is an isolated event, how does the website know your previous selections? (And remember that a website might be serving thousands of users like you at a time.) To solve this problem, websites create a simple text file, called *cookies* (also known as

web cookies or *tracking cookies*) on your computer. Besides storing the website address, the website stores the required information, such as a unique user ID, list of selected items, quantities, etc., in a cookies text file. When you move from one webpage to another of a website, the cookies file is also transferred between the website and your browser. The website updates the cookies file as required.

Websites use cookies for other uses too. One common use of a cookie is to track visits to a website. If you have never visited a website, obviously, no cookie exists for that website on your computer. When you visit that website for the first time, it generates a unique ID for your visit and creates a cookie on your computer. It also records that unique ID in a database maintained at the web server. Now, when you visit that website again, your browser sends the cookie to the website. Since the cookie contains a unique ID linked to your computer (which is basically you), it can track how often you visit the website, and customize the webpage sent to your browser based on your visit pattern.

Some websites let you make some selections to provide customized webpages. For instance, if you select Delhi as your place of residence in a shopping website, it may offer you more products from vendors who have stores/warehouses in or around Delhi. Similarly, a search website may allow you to choose a language to offer you search webpages only for that language. The website can remember your choices by storing these in a cookie file. Thus, when you visit the website again, your browser will send the cookie file to the website, which in turn can analyze it to customize the webpage for you.

Cookies are also used to automatically login you to a website. A website may store the login information in a cookie file. When you revisit the website, the cookie file containing login details is sent to website, and it can use these detail to automatically log you in. However, automatic login using cookies is used only by websites that don't use sensitive data.

8.26.1 Are Cookies Safe?

Websites can store all kinds of information, which may include your name, email address, city, etc., in a cookie file. However, it can store only the information you provide, therefore, if you do not enter your credit card information in a webpage, the website cannot store it in a cookie file. Besides, a cookie is a text file, not a program; therefore, generally it is safe to allow websites to create cookies on your computer. Moreover, these days, most websites use cookies; therefore, if you do not let websites create cookies, you won't be able to use many of these websites.

8.27 TEMPORARY INTERNET FILES/CACHE



As you know, when you visit a webpage, the browser retrieves it from the web server and displays it in the browser window. That is, to display each page, it has to fetch it from the web server over the Internet. Since the contents of each page have to travel from the web server to your computer over the Internet, it may increase the network traffic and slow down the page display process. Now assume that after viewing a page, you click a link to go to another page, and then click the Back button to re-display the first page. That is you want to view a webpage that your browser fetched a few seconds ago from the web server. It seems like wasting network resources re-fetching the page again a few seconds later.

To reduce the network traffic and to increase the speed of display of webpages, browser makes a copy of webpages you visit. The browser stores copies of the webpages you visit in a temporary folder on your hard disk, which is also *cache*. When you ask the browser to display a webpage, it checks if that page is already available in the cache; if yes it provides the webpage from the cache available on your computer rather than downloading it from the web server over the Internet. This process of using cache significantly improves browsing performance.

The browser automatically maintains the cache/temporary internet files, and automatically removes old files from the cache and stores new files, as you visit websites. You can improve the browsing performance by allocating larger hard disk space for the cache, if you have extra hard disk space to spare. Typical amount of space allocated to the cache is 50–250MB, which is good for most users, however, you can change the allocated space through the browser options/settings.

8.28 WHAT IS DOWNLOADING AND UPLOADING?



When the Web started expanding, websites started offering files for *download*. Downloading a file means receiving the file from the website to your computer through the Internet. In other words, the Internet lets you read the file from the website and save on your computer. Once the file has been saved on your computer, you may use it. What you can do with a downloaded file depends on the type of file. These days, all sorts of files are available for download, such as a text document, image, PDF (Portable Document Format) file, installable software, audio and video files, etc. Thus, if the downloaded file is a document or image, you may open to view it; if it is program file, you may run or install it, and you can play a music file, and so on.

Uploading is the reverse process of downloading, i.e., you transfer a file from your computer to a website. Though uploading is not as common as downloading, it is gaining popularity. The most common use of uploading by common Internet users is employed by websites offering digital picture printing. These websites allow customers to upload digital pictures for printing. Customer can pay for prints through credit card or other online payment systems. The printed pictures are usually sent by mail. The Internet users also use uploading when they want to share their pictures and videos. Social networking websites, e.g., Facebook and Google+ also let users upload pictures and videos.

Caution You should be very careful when you download files from unknown websites. Downloaded files have inherent security risk of containing virus, spyware, adware and malicious code that may cause nuisance or even temporary or permanent damage to your computer. Therefore, avoid downloading files from websites you do not trust.

8.28.1 Downloading Files in Internet Explorer

Internet Explorer can help you to download a file and save it in a specified folder on your computer. When a website offers a file for download, usually it displays a button or link. If it is a simple download, the download should start when you click the button or link. However, if the download file depends on the type of browser or operating system it will be used with, the website displays a list of options. Then, depending on your requirements, you may need to click the appropriate button/link to initiate the download. As downloading a file to your computer can be harmful to your computer, Internet Explorer asks you to confirm your action, as shown in Fig. 8.38. Notice that the File Download dialog box displays the name and type of the file, and the website you are downloading from. The Open link/button downloads the file from the website in a temporary folder and opens it with an associated program, whereas the Save/Save As link/button downloads the file and saves it in a folder. For safety reasons, it is better to save the file to your computer and scan it with an antivirus (virus scanner) program before opening it. This may help catch a potentially dangerous file before it causes any damage to your computer.

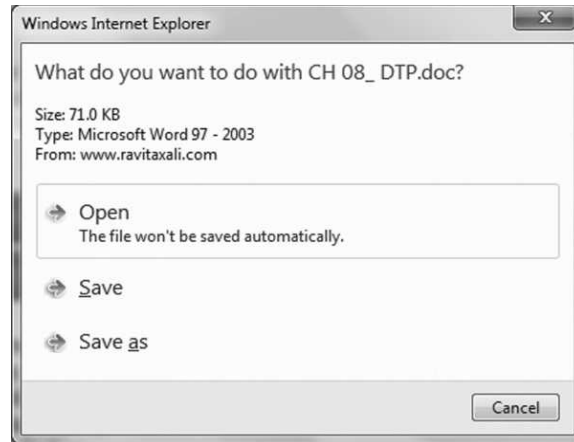


Fig. 8.38 Downloading a file in Internet Explorer

Note If you are downloading an executable file (.exe), the File Download dialog box replaces the Open button with Run. Though you may click the Run button to directly download and run the program, it is recommended to save it to your computer, scan it with a virus scanner and then run it if everything is okay.

Internet Explorer starts the download and when the download is complete, it displays the confirmation box as displayed here.



Now you may use the Open button to open the downloaded file. The Open Folder button displays the folder where the file has been downloaded.

If you download a *zip* (compressed) file and view it in the folder where it is saved, it is shown as a compressed (zipped) folder icon (). A compressed (zipped) file contains one or more files and/or folders. When you open a compressed file, Windows unzips it to reveal the files contained in it. Windows XP and newer operating systems contain a built-in program to unzip compressed (.zip) files. If you don't have an unzipping program on your computer, you may get one for free from www.7-zip.org/.

8.28.2 Downloading Files in Firefox and Chrome

Downloading files in Firefox and Chrome is similar to that in Internet Explorer. Figure 8.39 displays a file being downloaded in Firefox. Both, Firefox and Chrome have a default location for saving the downloaded files that you can change. To manage the downloaded files, press **Ctrl+J**, which also works in Internet Explorer. You can use it to view list of downloaded files, downloads in progress, open files, remove/delete downloaded files from the list, etc.

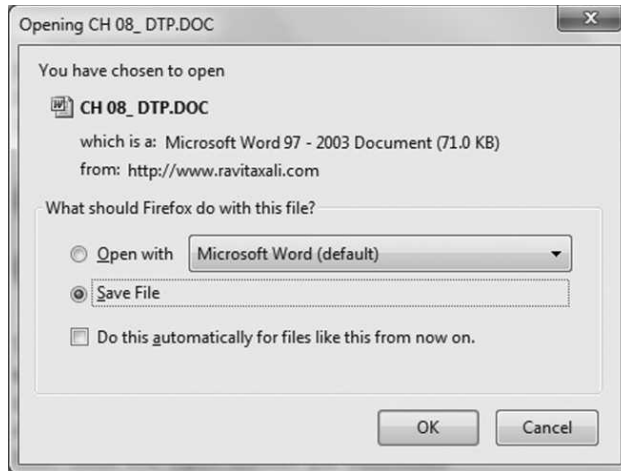


Fig. 8.39 Downloading a file in Firefox

8.28.3 Downloading and Installing a Program

Besides offering documents, text, spreadsheet, PDF files, etc., files for download, websites also offer *program* files for download. There is a basic difference between the two types of files—you can directly open documents, text, spreadsheet, PDF files, etc., files after download with the corresponding program, whereas you need to *install* the program files. Downloading and installing a program typically requires the following steps:

- Download the program file to your computer
- Uncompress/unzip the file, if required
- Scan for viruses
- Install and configure the program

Most of the programs which are offered for download for the Windows operating system usually have the extension **.msi** (Microsoft Installer or Windows Installer) or **.exe** (executable). These files are self-installing, i.e., these do everything required, such as unzipping, extracting and installing the program—all you need to do is just open (run) the downloaded file. On the other hand, if the downloaded file is offered as a zip file, you need to unzip (open) the zipped file and look for file to be used for installation. Look for a file named as Readme.doc or Readme.txt for instructions.

8.29 UPLOADING FILES



The Internet users are uploading various kinds of files in increasing numbers. Ordinary Internet users typically upload pictures, videos and music files to share with others. Web developers upload webpages and database tables to their web servers. To enable ordinary users to upload files, the webpage usually implements the required scheme on the webpage itself. A typical scheme involves the following steps:

- Visit the webpage and log-in to your account
- Choose files to be uploaded
- Click a button/link to upload files

To make the upload process user-friendly and quicker, some websites, e.g., Flickr (www.Flickr.com) and Picasa (picasa.google.com) offer a special program. To use the special program, you may need to download and install it on your computer.

8.29.1 Using FTP to Upload/Download Files

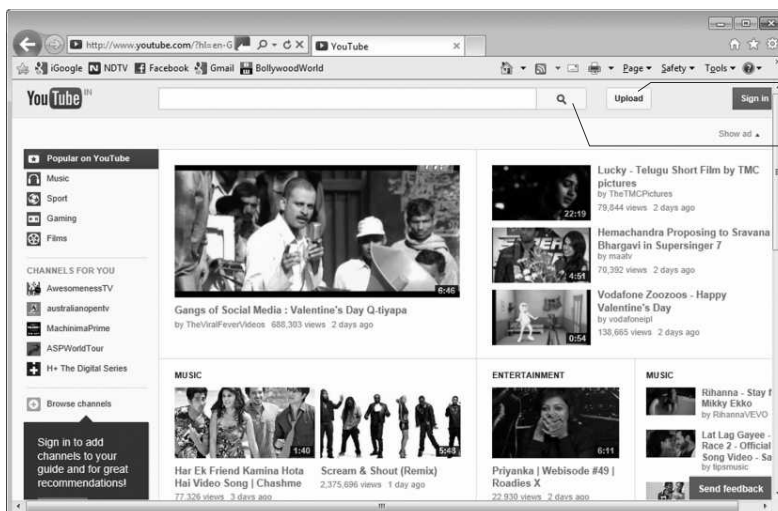
Files for website design are normally uploaded by developers through FTP (File Transfer Protocol). This process requires running a program on the local computer and establishing a connection to the remote computer where the website is hosted. To establish a connection, you need to provide the URL address, username and password. (Username and password ensure that only authorized persons are permitted to upload/download files.) After establishing a connection, rest of the process is quite simple—you just need to select the file(s) to be transferred and click the corresponding Upload/Download button or choose the required command from a menu.

As you might have guessed, to transfer files through FTP, you need a program. Several commercial and free FTP programs are available. One excellent free, open-source FTP program is FileZilla, which may be downloaded from <http://sourceforge.net/projects/filezilla/>.

8.30 WATCHING AND UPLOADING VIDEOS



As the Internet connection speeds are improving, websites are putting more and more video contents on webpages. The video content is used for product information, demo and advertisement by commercial companies. Advertisements usually keep running continuously on the webpage, whereas product information/demo normally runs when the user clicks a button/link. Some websites also offer short video clips or even full length movies for free or paid download. Once downloaded on your computer, you use the Windows Media Player or some other media player to watch the video clip. We will talk about media players in the next Section. For now, let us have a look the YouTube website that helps you to search and view videos, as well as to upload videos. The URL for the YouTube website is www.youtube.com (See Fig. 8.40.)



Click to upload a video

To search for videos, enter the search keywords in the textbox and click the search button

Fig. 8.40 YouTube—search, watch and upload videos

Note YouTube has a special website for India at in.youtube.com

Searching, watching and uploading videos in YouTube are very simple.

- To search for a video, enter the search keywords in the Search box and click the Search button (see Fig. 8.40), and the webpage displays brief description about the matching videos.
- To watch a video, just click the video's thumbnail graphic or the link, and the website launches the video in a video player displayed on the webpage. The video player has play, pause, and volume control buttons. You may even watch the video on full screen.

If you have a video that you want to share with your friends or even the entire world, YouTube lets you do this with ease.

- To upload a video, you need to log-in to YouTube with your Google account. If you have a Google Mail account, you already have a Google account, otherwise create a Google account (see Section 9.1).
- After successful login, click the **Upload** button and YouTube displays a form where you choose the file to upload and enter details such as, Title, Description, Video Category and Tags about the video. In addition to these, you may also provide additional optional details, such as date, location and whether the video is for private viewing or for public viewing. When the uploading is complete, YouTube displays a confirmation and link for the video.

Tip YouTube also lets you directly capture and upload a video using a webcam (Web Camera).

8.31 AUDIO AND VIDEO ON THE WEB



Lots of audio and video information is floating around on the web. You may listen/watch this in several different ways:

- Connect to the website and listen the audio or watch the video
- Listen to live music and other contents on an Internet Radio
- Download free/paid music/video programs from an Internet website and listen to/watch it using a media player

Media Player is a program that can play different types of audio and video files. Some of the common media players are Windows Media Player (see Section 2.32.), RealNetworks' RealPlayer and Apple's iTunes. Digital media files are created in various formats, such as MP3, WAV, WMA, WMV, AVI, etc. Most media players are able to play files created in most common formats, however, some media player, e.g., Apple's iTunes use custom formats that may not work on other media players.

Apple's iTunes media player is very versatile and is available for Mac as well as Windows PCs. You can download iTunes from www.apple.com/itunes/download/. iTunes can play audio and video digital files stored in most common formats. It has all the features of Windows Media Player and RealPlayer, including copying music from an audio CD into library, creating playlists, Internet radio, burning music into CDs, and of course buying music and other material from Apple's iTunes Store. Another interesting feature of iTunes is free Podcasts that you download and listen on your computer or other portable devices.

Note If you buy and download music from iTunes Store, you can play it in iTunes media player or transfer it to iPod/iPhone. However, you won't be able to transfer it on a regular MP3 player, as Apple uses a different digital audio format (.m4p).

8.31.1 Listening to Music from a Website

Some websites enable you to listen to music. You can listen to the music; however, you cannot download it to your computer. The music is played on a special *media player*, which is either embedded on the webpage or is automatically opened in a separate window by the website. Since the website sends the music to the media player over the Internet, you have to be online and connected to the website in order to continue to listen to the music. The website providing the music or other audio content may be serving several users at a time, and the Internet traffic may vary from time to time, therefore, it uses a *streaming* technology. In this technology, the media player that plays music on your computer has some memory (buffer). The website keeps delivering the audio content to the media player for storing into the buffer, while the media player plays audio from the buffer. This way, even if the content being delivered to your computer stops for a few seconds, you can continue to listen uninterrupted. However, if the site offering the audio content becomes too busy, or your Internet connection becomes slow, you may experience break in the audio. To listen to Indian music, you may try www.saregama.com and www.saaavn.com.

8.31.2 Internet Radio

Internet Radio websites bring live as well as previously broadcasted program to your computer. These websites provide program to your browser in the streaming mode. If you have broadband connection, you should be able to listen to Internet radio without any interruption most of the time.

Many public radio stations have links on their websites to listen to their programs. For a list of Internet radio stations, you may visit http://en.wikipedia.org/wiki/List_of_Internet_stations. Of course, if you search the web, you will find many more sites offering the Internet radio. Many Internet radio stations are available only through Internet and not through regular broadcast, as it is much cheaper to set up an Internet radio station as compared to a broadcasting station. You may be able to play an Internet Radio station on a media player. While access to most Internet radio stations is free, some may require subscription.

8.31.3 Podcast

Podcast enables digital media files to be distributed over the Internet. Podcast files, which are free, may contain audio as well as video content. One interesting feature of podcast is that if you like a program available through podcast, you can *subscribe* to it. Later, whenever the new episode of that program becomes available, the *podcasting client* automatically downloads it. The most popular podcasting client is Apple's iTunes player, through other clients are also available.

8.31.4 Download Music from a Website

Downloading music from a website is not much different from downloading any other type of file. If the website is offering the music for free, usually downloading involves clicking a link/button and saving the file in a folder on the computer. After the file has been saved in a folder, you can play the downloaded file using a media player of your choice.



8.32 SHOPPING ON THE WEB

The Internet has become a huge market place, which allows users to buy all kinds of stuff, including books, music, gifts, clothes, electronics, train/bus/air tickets, etc., from the convenience of one's home or office. Online shopping has many advantages over a physical trip to the store:

- It saves you hassle of driving to the store. It also saves you travel time and driving cost.
- Online stores are open 24 hours a day, so you may shop whenever you have time.
- Prices at the online stores are fixed, so there is no need to bargain to get the best prices. Besides, you can always check the price at more than one website to get the best deal.
- The online store may be able to offer much wider selection. Usually the prices at the online stores are lower than those offered at regular shops. Online stores are able to offer better prices as they do not have pay high rents to set up shops in commercial areas.
- Sometimes it may be very difficult to find an item at a local store. For instance, once I needed a battery for an old cordless phone. I could not find that battery in my neighborhood shops; however, it took me a quick search on the Internet to find an online store that had it.

In spite of all these advantages, many people still have not started online shopping because

- One cannot physically see and try the stuff before buying.
- Also, if the item bought from an online store becomes defective during shipping or needs repairs during warranty period, there is a hassle of sending it back for repairs/exchange.
- Some people still do not have 100% faith in paying by credit card on a website.
- Some people enjoy bargaining, which they cannot do on an online store.

These days, almost anything is available for buying at the online websites. However, some items are more popular with online shoppers, which include books, CDs, computers, digital cameras, mobile phones, gifts, toys and clothes. Dell computers became the number 1 computer manufacturer in the world by selling their computers through online websites and phone. Two more categories—online tickets and hotel room booking—have captured a major share from traditional booking methods. Airlines particularly like the online booking and sale of tickets, as they save on man-power and improve their bottom line.

8.32.1 How to do Online Shopping?

When you decide to buy something online, make sure that you know exactly what you want to buy. Do your research on the Internet to get as much details as possible. If you are buying an electronic item, try to get its model number.

After you know what you want to buy, visit the online website. You may find hundreds of websites selling the item you want, if you are buying a common item. You may do web search to find online stores, or your friends/colleagues may recommend an online website. To buy items at an online store, you usually need to *register* and *login*. During the registration process, you provide your name, email address, password, billing address, etc., so that the online website can positively identify the buyer. The login process usually requires you to provide your email address/username and password to identify you.

After you have logged in to the online website, the actual buying process will be different for different sites. However, in a typical website, you search one item at a time and add it to an *online*

shopping cart. The website enables you to view your shopping cart, remove an item or change the quantity you want to buy for an item. Figure 8.41 displays a shopping cart with two items for an online website. Notice the Remove Item button on the right side of each item line, which may be used to remove an item from the shopping cart. As you remove an item or change the quantity, the website may automatically refresh the page to display the revised amounts, or you may need to click a button to manually refresh it.

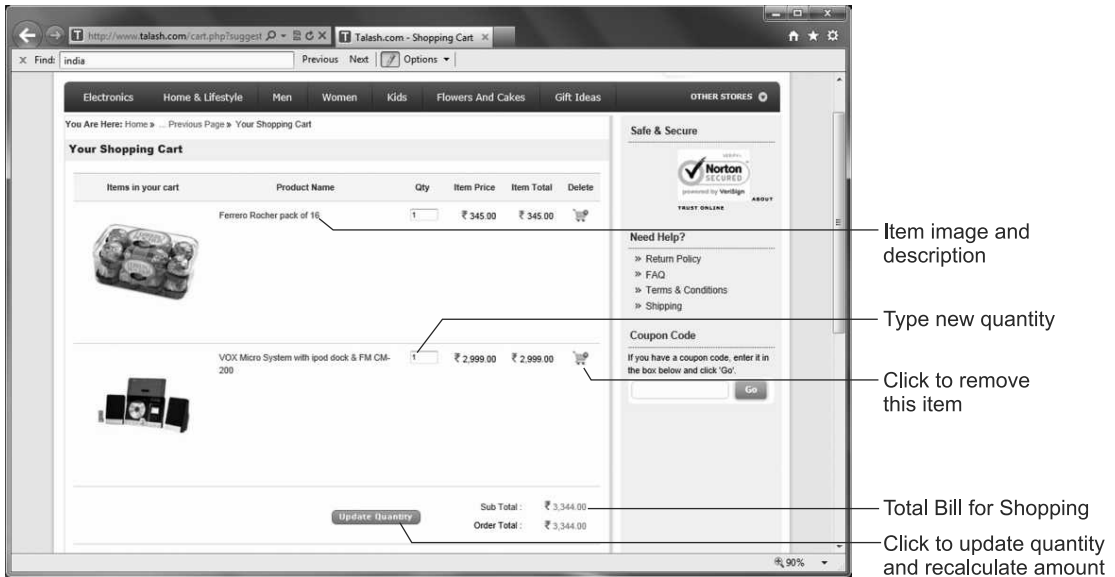


Fig. 8.41 Shopping cart for an online website

After you have finalized the items you want to buy and added these to the shopping cart, you typically click a button to proceed to *check out*. In this step, you provide the shipping and billing address and other instructions, and make the payment. In a typical payment process, either you provide the credit card details directly to the vendor's website or it may take you to a third party payment gateway to accept payment. If your payment gets approved, the website displays a confirmation message and also sends you a confirmation email. Usually, the online website ships the items within a few days.

8.32.2 Shopping on eBay

eBay (www.ebay.com) and eBay India (www.ebay.in) provide a different kind of online shopping experience. eBay is owned by eBay Inc., a USA company that manages online auction and shopping websites. The eBay website lets any individual or company to offer goods and services for sale by auction as well as at predetermined price. Similarly, the buyer can bid for items listed on the eBay website. If an item is available for outright purchase, the buyer can buy it immediately without going through the auction process. eBay is particularly useful for individuals who want to get rid of their unwanted items, as well as for small business companies who cannot afford to setup their own online websites.



8.33 INTERNET BANKING

Most banks now offer Internet banking, which is also known by other names, such as online banking, net banking and NetBanking. Internet banking is a win-win situation for both banks as well as their customers. By offering services through Internet banking, banks can save costs, as it is much cheaper to serve customers through a website as compared to doing the same through bank employees, or even through Automatic Teller Machines (ATMs). For customers, it offers the convenience of doing banking 24 hours a day from the comfort of their home/office. Internet Banking saves customers time and money, as they do not have to visit the bank branch and wait in queue for their turn.

The services offered for Internet banking by different banks varies; however, you can expect the following services from a typical bank:

- View account balances, recent transactions and statements. If you maintain credit card and/or Demat account with the same bank, you may be able to view these accounts too.
- Print/download account statements
- Transfer funds between accounts
- Transfer funds from an account to create a fixed deposit
- Request a demand draft
- Request stop payment for a cheque
- Order a cheque book
- Pay bills
- Learn about services offered by the bank

To know more about the services offered by your bank for Internet banking, visit your bank's website or branch. The website may also have a demo on Internet banking.

Before you can use Internet banking, you need to register for it. Contact your bank branch for details. The registration process is usually cumbersome and may take a few days. You may have to physically visit the branch to complete the registration process and to collect username/user ID and password.

To begin your Internet banking experience, you first need to login to your bank's website with your user name/ID and password. After a successful login, the website gives you access to your account(s) details. As each bank's website for Internet banking is different, what you see after successful login significantly differs from one website to another. Figure 8.42 displays the opening webpage of a typical bank's website after successful login.

The webpage shown in Fig. 8.42 displays the summary of all accounts held by the account holder with the bank. The left and top side of the webpage contains links to accomplish common activities, such as Pay Bills, Transfer funds, open accounts, etc. The webpage enables you to view detailed transactions for each account by clicking the link displayed on the page. The website can usually display account statement for the past few months. If you like, you can print the account statement, or download it to your computer for record keeping or analysis.

8.33.1 Transferring Funds between Accounts

These days, many customers maintain more than one account at a bank. For instance, you may have savings, chequing, investment (Demat) and fixed deposits accounts at your bank. Internet banking allows easy transfer of funds from one account to another. Whereas the exact steps one needs to follow to transfer funds would differ from one bank's website to another, here are the typical steps:

- Choose the **Transfer Fund** link/button. Your bank's website may call it something different

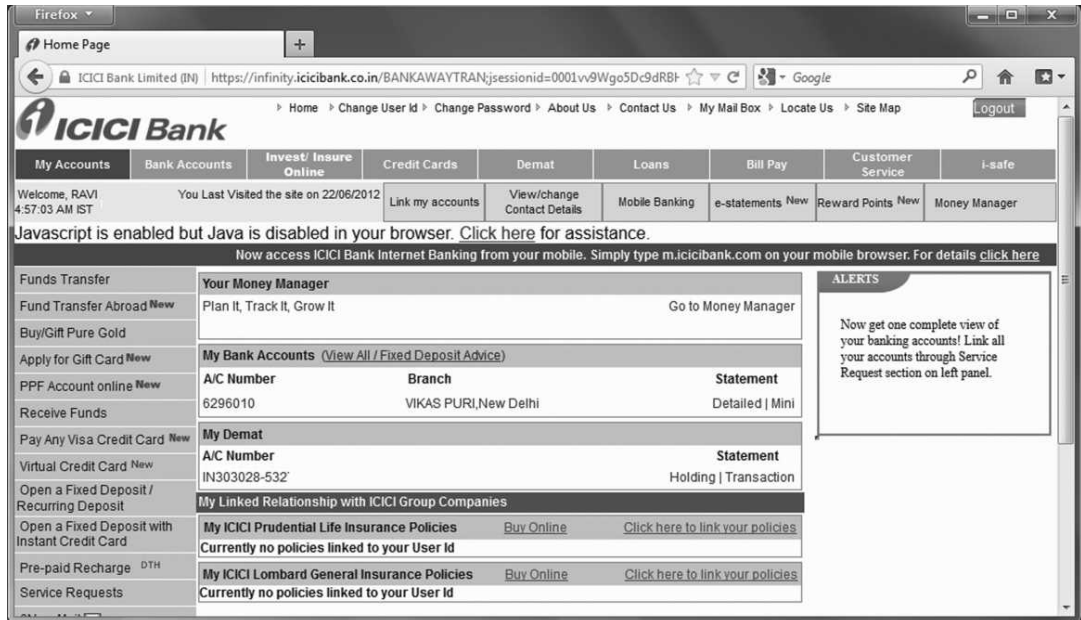


Fig. 8.42 Opening page of a bank's website

- Choose the account you want to transfer money from
- Choose the account you want to transfer money to
- Enter the amount you want to transfer
- Click the Submit/Continue button
- The website displays the transaction you want to perform and asks you to confirm by clicking the Confirm button
- The website performs the transfer and may display you a confirmation number

Depending on the type of transfer and time of the day, the transfer may reflect in your account immediately or after some time. Whereas the Internet banking websites of all banks allow transfer of funds from one account to another held at the same bank, some banks may also allow transfer of funds to a third party account.

8.33.2 Online Bills Payment

Your bank's website can let you pay bills online. You may be able to pay bills for most utilities companies, such as electricity, water, telephone and cable online. Most credit card and financing companies also allow online payments of bills. Before you can pay a bill online, you need to register it, which typically involves selecting the *payee* (billing company) and your *bill account number*. This step ensures that the amount you pay to the billing company gets credited to your account. The banking website lets you register your bills. After you have registered the bill, a typical online bill payment is not significantly different from transferring money from one account to another. You may be able to choose a future date for making the payment.

8.33.3 Other Online Banking Services

Your bank may provide a number of other services through the online banking website, such as

- Open a new account
- Create a fixed deposit/PPF account
- Pay taxes
- Buy mutual funds
- Request a demand draft/gift cards
- Recharge pre-paid mobile phones
- Request stop payment for a cheque
- Order a cheque book

8.34 INVESTING MONEY ONLINE



If you want to invest money in Shares, Mutual funds, National Savings Certificates, etc., the Internet can help you get valuable information as well as to actually perform the transaction online. If your bank provides investment services, its regular Internet banking website may have links to do online investment. Some banks/financial institutions may have a separate website for online investing.

The investment banking website typically contains educational information that may help you to make an investment decision. For instance, if you want to buy a share, it may provide financial reports for previous years, historical data for the share price, analysis reports from independent analysts, etc. The website typically also provides delayed/live quotes for shares. Similarly for mutual funds, it typically provides NAV (Net Asset Value), fund category, pay-out ratios, etc.

Like a regular banking website, the online investment website too provides information about your holdings, and enables you to buy or sell your investment. Figure 8.43 displays shares holdings

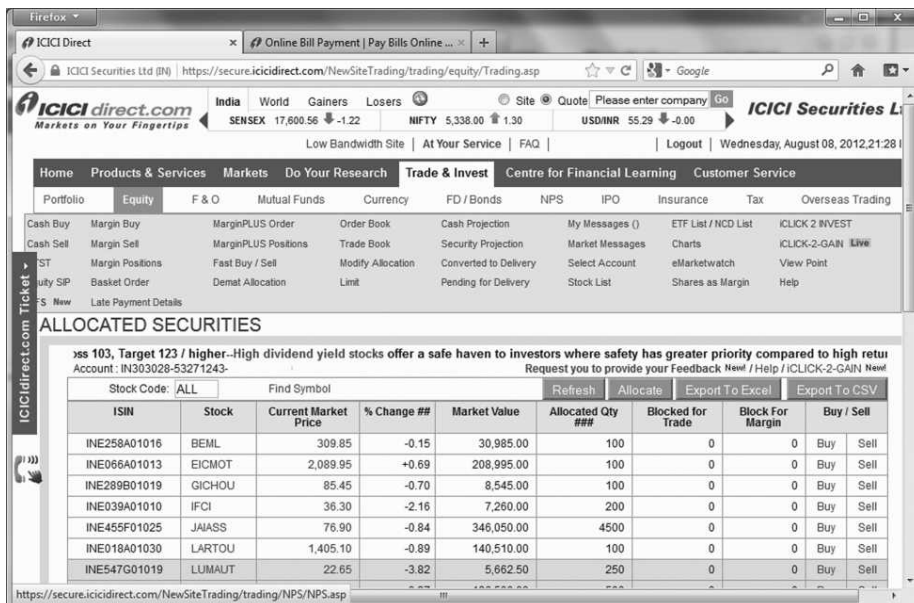


Fig. 8.43 The webpage displaying share holdings and their market value

(portfolio) for an account and their current market value. The current market value is based on real-time share quotes from the associated stock exchange for each stock. The buy/sell link takes you to a webpage where you can enter a buy/sell order. You may also click the Buy or Sell links located in the top portion of the webpage to buy/sell any stock. The buy/sell webpage displays real-time stock quotes to enable you to place your order. To pay for your order, you need money, and the website enables you to transfer money from your linked banking account. The investment website can send you order confirmation via e-mail or SMS. Different investment websites have different features and capabilities. Refer to the help or demo link on the website for more details.

8.35 SECURITY CONSIDERATIONS FOR ONLINE FINANCIAL TRANSACTIONS



While doing financial transactions on an online website are very convenient for customers, it also opens doors for misuse and fraud by unauthorized users. You would not like others to see how much money you have in your bank account or which shares you hold in your investment account. And definitely, no one would even like to think about a situation where an unauthorized person transfers money out of your account. Therefore, you must take utmost care to protect your online accounts. Here are a few suggestions that may help to keep your accounts safe.

- Do not share your username/ID and password with anyone.
- Never use your name, date of birth or name of your family members as password.
- Do not use a short password, which is easy to crack. Make the password at least 8 characters long.
- Never use a word that can be found in a dictionary as password. A typical password should consist of letters as well as numbers. Preferably, it should also include special characters, such as #, \$, & and @, if allowed by the website.
- Do not write down your password anywhere, definitely not in your wallet. Make an effort to remember your password.
- Do not use the same password for every website.
- Avoid using the banking/investment website on public computers, which may have hidden software to capture, store and send your username/ID and password to people who may then use that information to login to your account and misuse it.
- Similarly, avoid using your laptop PC to perform financial transactions on public Wi-Fi networks in places like hotels and airports. If you have to use your computer at these places, make sure that your work only on secured websites (HTTPS).
- Regularly check your account and if you notice any suspicious transactions, contact your bank immediately.
- Be suspicious of any email that asks you to verify your account.

8.36 USING INTERNET IN INDIAN LANGUAGES




Though initially all Internet webpages were created in English, now webpages are being created in all languages, including Indian languages. Windows XP and later versions include built-in support for the *devanagari* script. If your computer is properly setup, you should be able to see *devanagari* text correctly in your browser window. To verify that your browser can display Hindi text properly, visit the

Government of India's Hindi website at india.gov.in/hi or BBC's Hindi website at www.bbc.co.uk/hindi. Figure 8.44 displays a webpage from the National Portal of India website. If you can see the Hindi text correctly, you do not need to do anything. However, if you cannot see the Hindi text at all, perform the following steps:



Fig. 8.44 A webpage displaying Hindi text

- In Firefox/Internet Explorer, open the **View** menu, choose **Encoding/Character Encoding** and then choose **Unicode (UTF-8)**.
- In Chrome, click  and choose **Tools, Encoding, Unicode (UTF-8)**.

8.37 INTERNET AUTOMATIC TRANSLATION SERVICE

Some websites provide free translation service. These sites can translate a user entered text or the entire webpage. Two such free popular websites are translate.google.com and www.bing.com/translator. The Google and Bing (Microsoft) translation services also support the Hindi. Figure 8.45 displays an English text translated into Hindi through Google Translate.

- To perform a translation, type or paste the text in box, choose **Translate From** and **Translate To** languages and then click the **Translate** button.

The translation is done by a computer program; therefore, do not expect it to be perfect.

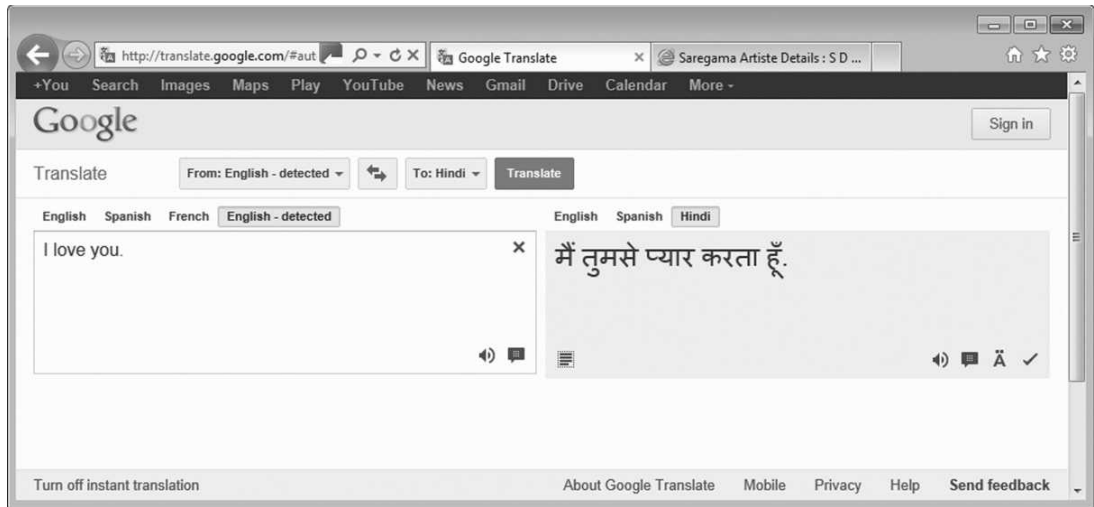


Fig. 8.45 Text translated by Google Translate

8.38 FINDING MAPS AND DRIVING DIRECTIONS ON INTERNET



You can use the Internet to get free maps and driving directions. One of the best websites for this purpose is Google Maps (maps.google.com). The Google Maps site has maps for all countries, including India. To get the map, enter the full or partial address in the Search the Map textbox and click the Search Maps button. Other popular sites for maps and driving direction are Map Quest (www.mapquest.com) and Bing Maps (www.bing.com/maps). Other useful features available on the maps are street view, traffic, weather and public transport information.

8.39 KEEPING YOUR PC SAFE



To enjoy working on your computer and to keep the information stored in it safe, here are a few recommendations:

8.39.1 Install Anti-Virus Software

Viruses and *worms* are software programs that can cause all sorts of problems on your computer—they can delete files, format your hard disk, make your computer slow, change files, or even make your PC unbootable. To protect your computer, you should be using a virus checking program all the time. That is, the virus program must be running all the time, scanning any file that you download or any program that you install.

A number of antivirus programs are available—some require purchase (subscription) while others are free. Some of the popular commercial antivirus programs are McAfee VirusScan® Plus, Norton AntiVirus, Panda and NOD32 Antivirus. One good free antivirus program is AGV Free Anti-Virus which you can download from free.grisoft.com. When you install any antivirus software, make sure that you set it up for daily automatic updates.

8.39.2 Install Anti-Spyware/Adware Software

Spyware programs get installed on your computer without your knowledge. The spyware does not spread like a virus; instead it usually gets installed when you download some free/shareware program from a website. Once the spyware gets installed on your computer, it can do a lot activities behind the scene, such as degradation of computer performance, report user's web activity, redirect user to some other website, display pop-up advertisements, or even transmit sensitive information stored on the computer. *Adware* software, which also gets installed like spyware without the user's knowledge automatically displays advertisements or downloads advertisements to the computer.

When you buy an anti-virus program, it usually contains anti-spyware and anti-adware programs. In addition, you may find Spybot Search & Destroy, Spyware Doctor, SpywareGuard and Ad-Aware Free useful to detect and remove spyware/adware.

8.39.3 Use Firewall

As you know, through the Internet, you can connect to millions of computers located throughout the world. However, the reverse is also true, i.e., hackers, through those computers can also connect to your computer, and steal information from your computer, install virus, spyware, adware or malicious software on your computer, or even take the complete control of your computer. Once your computer is in the control of hackers or software installed by them, they can misuse its resources for sending *spam* emails, spread virus, transmit your keyboard activities, etc.

Firewall is a hardware and/or software that monitors and controls network traffic passing through it. Thus, if you install a firewall between your computer and the Internet, it can block an attempt by other computers to gain access to your computer through the Internet. Similarly, a firewall may block the outgoing traffic by a program (usually virus) running on your computer.

For the safety of your computer and the information stored on it, it is highly recommended that you use a firewall. Recent Windows operating systems (Windows XP Service Pack 2, Windows Vista and Windows 7) include a built-in firewall. If you are not using any other firewall, you must turn on the Windows firewall. Besides the firewall included in Windows, a number of commercial as well as free firewalls are available. ZoneAlarm (www.zonealarm.com) offers a free firewall. Search the web of additional free firewalls.

8.39.4 Avoid Using Administrative Account

Windows supports two types of accounts—administrative and standard. An administrative user can make all kinds of changes, such as changing security settings, installing and removing software, deleting system files, etc., which affects all users on the computer. Even a standard user can do almost anything an administrator user can do, except that Windows may ask for the password for an administrative account. Therefore, to keep the PC safe, it is recommended that each user account should be created as standard account. Besides, each user should use a password to prevent unauthorized access to the computer.

9

E-MAIL AND SOCIAL NETWORKING

CHAPTER OBJECTIVES

In this chapter, we will discuss the following topics:

- ◆ *Electronic Mail (E-mail)*
- ◆ *Microsoft Outlook 2010*
- ◆ *Setting up and Using Outlook*
- ◆ *Yahoo! Mail*
- ◆ *Hotmail*
- ◆ *Outlook.com*
- ◆ *Google Mail (Gmail)*
- ◆ *Instant Messaging: Windows Live Messenger, Yahoo! Messenger and Google Talk*
- ◆ *Social Networking Websites*
- ◆ *Microsoft Family Safety*
- ◆ *Google Drive*



9.1 ELECTRONIC MAIL (E-MAIL)

Electronic mail (e-mail or email) is one of the most common applications of the Internet. It enables you to send a message in electronic form to any user who has an e-mail address. E-mail works on the store and forward method, which may involve two or more *mail-servers*. The message is first sent to the sender's mail-server, which in turn sends it to the recipient's mail server. The recipient's mail server then delivers the message in the recipient's *mail box*, and the recipient can read the message. Depending on the volume of messages being handled by the mail servers involved, the message may take just a few seconds to reach the recipient's mail box, or it may take significantly long time. Usually, most messages are delivered within a few seconds.

To send and manage e-mail messages, you need an e-mail program, which is also called *e-mail client* or *Mail User Agent* (MUA). Some of the popular e-mail programs are Microsoft Outlook, Microsoft Outlook Express, Windows Mail (for Windows Vista), Windows Live Mail, Mozilla Thunderbird, Eudora and Mail. These e-mail programs run on your computer to send, receive and manage e-mails. In addition to e-mail client programs, you can also perform e-mail functions through *webmail* (Web based e-mail) via a web browser. Some of the popular webmail service providers are Hotmail, Yahoo! Mail, Gmail, Outlook.com, AOL Mail and Rediffmail.

9.1.1 E-mail Clients versus Webmail

The e-mail client runs on your computer to send, receive and manage your emails. All e-mails that you send and receive are stored on your computer. You need to connect to the Internet only to send and receive e-mail messages. After a message has been sent, you may disconnect from the Internet and still have full access to all sent and received messages.

On the other hand, if you use a webmail program for your e-mailing needs, you need to be online to send/receive a message as well as to view messages sent/received previously. All your messages are stored by the webmail provider on its mail servers, and nothing is stored on your computer. Thus, if you are unable to connect to the Internet, you cannot view any of your e-mail messages. Also, the webmail service provider may limit the amount of space available to each user, and you may not be allowed to send attachments larger than a specified limit.

Note A few years ago, when Hotmail was the most popular webmail provider, a user was allowed only 2 MB of space for the free account. However, as new players, particularly Gmail, emerged, space available to store e-mail messages has increased over 5000 times to 10 GB and more. Several webmail providers allow unlimited space to each user to store e-mails.

Since you can access your webmail account from any computer or device anywhere in the world that has access to the Internet, it is particularly useful for people who are on the move or want to access their e-mail messages from home as well as office.

Webmail services offer a lot of features to manage your e-mail messages, filter out unwanted messages and free virus checking of messages as well as *attachments*. You may not find these features in e-mail client programs or these may not be so efficient or user-friendly. Also, to use an e-mail client program, you need to set-up the program on your computer whereas no such setup is required for webmail programs.

As you know, with webmail services, all your e-mail messages are stored at the service provider's servers. Although they take all precautions to keep your messages safe, there is still some risk that any private information stored in these messages may fall in the hands of unauthorised users. On the

other hand, with e-mail client programs, all e-mail information is stored on your local computer, and therefore, considered safe.

Due to all these considerations, most individual Internet users normally use webmail service for e-mails, however, most corporate users normally use e-mail client programs for their e-mail requirements. We would discuss Microsoft Outlook 2010, an e-mail client, as well as commonly used webmail programs in the following sections.

9.1.2 E-mail Address

Before you may send or receive an e-mail, you need an e-mail address. The e-mail address is like the postal address that is used to deliver a message to you. When you sign-up with an Internet Service Provider (ISP), it assigns you one or more e-mail addresses. For instance, if you sign-up with **www.rogers.com**, you may get an address such as **yourname@rogers.com**. In this address, the first part of the e-mail address (yourname) is *username*, and the second part (rogers.com) is *domain*. (For more information on domain, see Section 8.4). Similarly, if you use the webmail service, your e-mail address is *yourname@domain*, e.g., **yourname@hotmail.com** for Hotmail, **yourname@outlook.com** for Outlook.com, **yourname@gmail.com** for Gmail and **yourname@yahoo.com** for Yahoo!. Some webmail service provider also offer country specific domains, e.g., with Yahoo!, you may have an e-mail address **yourname@yahoo.in**.

All webmail service providers let you choose the username part of your email address. Most users prefer to use their first name, last name or complete name as username in their email address. For instance, if your name is Raj Sharma, you may like to get an email address, such as **raj@hotmail.com**, **rajsharma@hotmail.com** or **raj_sharma@hotmail.com**. However, when you try to get an email address of your choice, if yours is a common name, you may find that the e-mail address of your choice is already taken up by someone and you cannot have it. (After all, one email address can be allotted to only one person!) In that case, you may have to prefix or suffix some characters to the username part, e.g. **rajsharma1971** or **rajsharmaDelhi**.

9.1.3 Getting a Webmail E-mail Address

To get a webmail e-mail address, you need to register with the corresponding webmail service provider. There are several webmail service providers, however, the most popular ones are Yahoo! Mail, Hotmail/Outlook.com and Gmail. You may setup your account with any one of these. For an average user, any of these service providers will serve the purpose. To get an email address from a webmail service provider, you need to register with it. During the registration process, you provide some details about yourself and choose an email address. The details to setup an e-mail account with common webmail providers are given here. (As of mid 2013, Microsoft has replaced Hotmail with Outlook.com though you can still get the Hotmail address through Outlook.com).


SERVICE PROVIDER	URL	PROCEDURE
Yahoo! Mail (India)	http://in.yahoo.com/	Click the Create Mail Account link located in the top right section.
Yahoo! Mail	http://mail.yahoo.com/	Click the Create New Account button.
Outlook.com	http://www.outlook.com	Click the Sign Up Now link.
Gmail	http://www.gmail.com	Click Create an Account button located in the top right corner.

The registration process is quite similar in all cases. Typically you provide your name, choose an email address, password and other details.



9.2 STARTING MICROSOFT OUTLOOK 2010

Microsoft Outlook 2010 is a *personal information manager* program, which, besides the e-mail application includes other applications, such as calendar, task manager, contact manager and note taking. Do not confuse Outlook with similar sounding Outlook Express, which is also an e-mail client but lacks several features supported by Outlook. Also Outlook 2010 should not be confused with Outlook.com, which is a web based email program. You start Outlook 2010 like any other Windows program.

- If there is an icon for Outlook 2010 on your desktop, double click that icon to start Outlook. The Outlook icon normally looks like .
- If the Outlook 2010 icon is available on the taskbar, you can start Outlook by clicking that icon. Alternatively, you may start Outlook from Windows menu. The Outlook program may be located anywhere in the menu system, however, normally you will find it in the **All Programs, Microsoft Office** submenu.

On starting Outlook 2010, you see a window similar to Fig. 9.1. The Outlook window displays the familiar Ribbon interface at the top. It displays *Navigation* pane on the left and lists items from the selected folder in the *Content* pane, also known as Folder pane. The pane to the right of the Content pane is called the Reading pane, which displays the preview of the item (e.g., email) selected in the Content pane. On the right of the Reading pane, the Outlook window displays the collapsible *To-Do-Bar*, which displays a calendar, appointments and tasks. Depending on Outlook setup on your computer, your Outlook window may look different from Fig. 9.1.

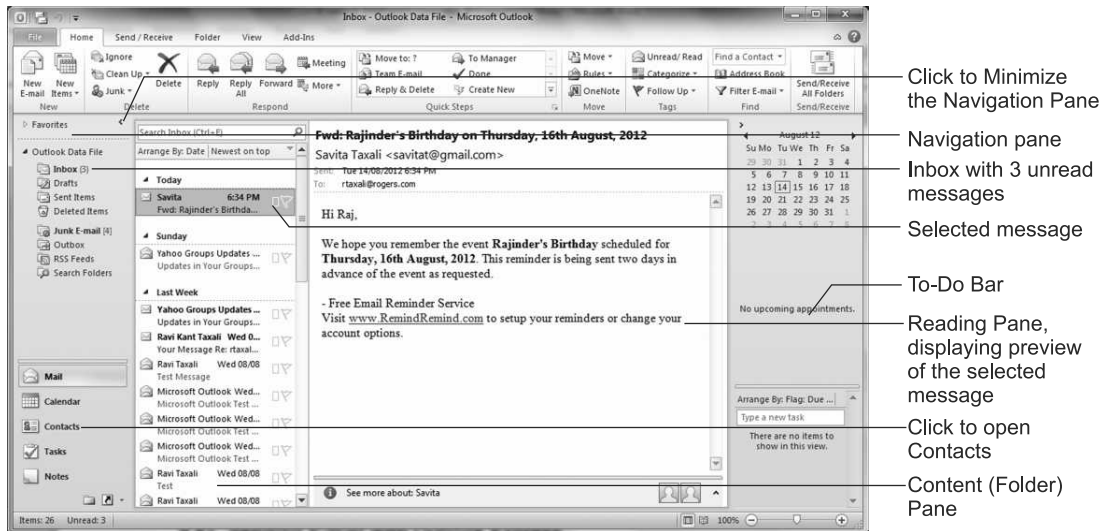


Fig. 9.1 The Outlook 2010 window

Note If Microsoft Outlook has never been setup on your computer, Outlook starts the Microsoft Outlook 2010 Startup wizard. Refer to the next section for details.

- Outlook uses folders to store messages. If you do not see any messages in your Outlook windows, click the **Expand** button located to the left of **Outlook Data File** in the Navigation pane and click the corresponding folder, e.g., Inbox. (On your PC, Outlook Data File may be called something different, e.g., Personal Folders or Local Folders.)
- The layout of the Outlook windows is customizable. For instance, you can minimize the **Navigation** pane by clicking the **Minimize the Navigation Pane** button (see Fig. 9.1).

Similarly, you may minimize the To-Do Bar or resize any pane by dragging its left or right vertical border.

9.3 SETTING UP OUTLOOK



If Microsoft Outlook has never been setup on your computer, Outlook starts the Microsoft Outlook 2010 Startup wizard shown in Fig. 9.2. This wizard guides you through the process of configuring Outlook to send and receive e-mails by linking it to an e-mail address.



Fig. 9.2 Microsoft Outlook 2012 Startup Wizard

- Click **Next** and the wizard displays the Account Configuration window where the wizard asks if you want to configure Outlook. By default, the *Yes* option is selected. Click **Next** to proceed to the next step shown in Fig. 9.3.

By default, the Startup wizard selects the *Auto Account Setup* mode. If your Internet Service Provider (ISP) supports Auto Account Setup, configuring Outlook is quick and easy. As most ISPs support Auto Account Setup, let us continue with the Auto mode.

- Type *Name*, *e-mail address* and *password* in the appropriate textboxes. Click the **Next** button.

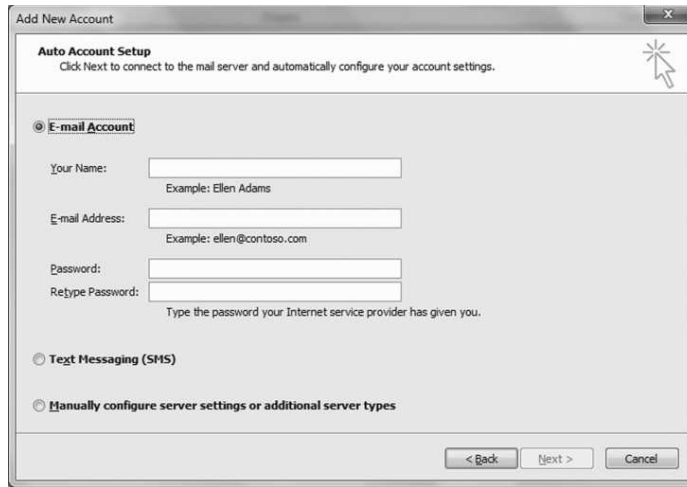


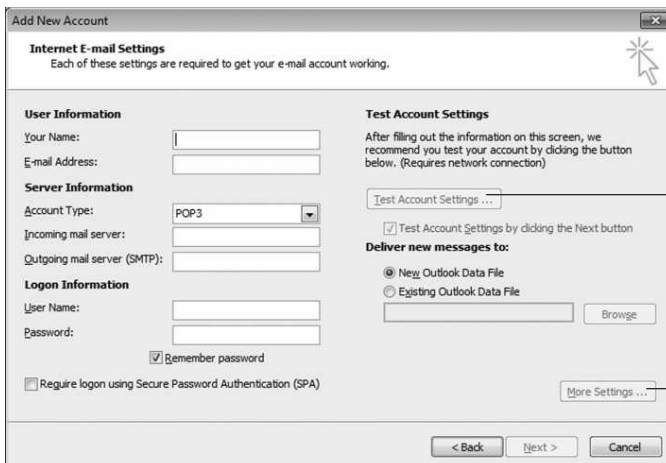
Fig. 9.3 Auto Account Setup

- Outlook tries to establish a connection to the network and tries to communicate with the mail server. If it is successful, it displays a confirmation message and you are done and Outlook has been configured. Click the **Finish** button to close the Wizard.

Note If you are trying to setup a Hotmail account with Outlook, you first need to download and install the Microsoft Outlook Connector for Windows Live Hotmail.

9.3.1 Manually Configure Outlook

- If Auto Account Setup is not successful, choose the **Manually Configure** option in the Auto Account Setup screen (Fig. 9.3) and click **Next**.
- The Startup Wizard displays the Choose Service screen where the Internet E-mail option is selected by default. Click **Next** and the Internet E-mail Settings screen appears as shown in Fig. 9.4.



After entering details in the left section, click this button to test the account

Click to define advanced settings for the e-mail account configuration

Fig. 9.4 Internet E-mail Settings for Outlook Setup

- Enter the relevant details in the left section of Internet E-mail Settings screen. In the *User Information* section, enter your name and e-mail address. Enter the mail server details in the *Server Information* section; contact your ISP if you do not know these details. Finally, enter *Logon Information* (provided by ISP) in the last section.
- After you have entered all details, click the **Test Account Settings** button to test the connection and validate the logon information. Outlook performs some tests, including sending a test message and displays the results, as shown in Fig. 9.5.

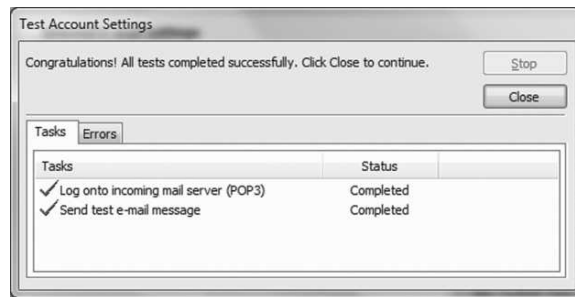


Fig. 9.5 Test Account Settings dialog box

- If the Test Account Settings dialog box displays that all tests were successful, Outlook has been configured to use the e-mail account. Click **Close** to close the Test Account Settings dialog box. If all tests are not successful, click **More Settings** (see Fig. 9.4) and define/edit additional settings and try **Test Account Settings** again.
- After Outlook is successful in testing the account, click **Next** and the Startup Wizard displays the final step shown in Fig. 9.6.
- Click **Finish** to close the Setup wizard and Outlook is ready for use.

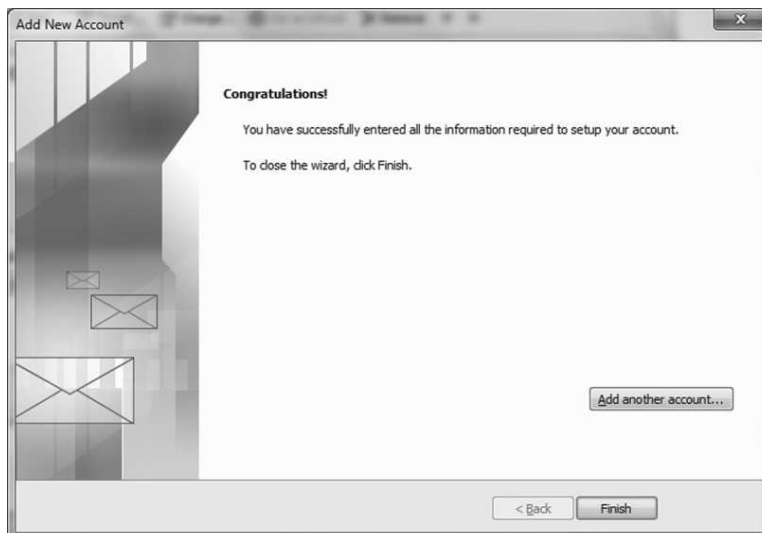


Fig. 9.6 E-mail account successfully setup through Startup wizard

9.3.2 Configuring Additional Accounts

Outlook can be configured to work with more than one e-mail account. After Outlook has started, to configure additional account for use with Outlook:

- Click the **File** tab on the ribbon to display the Backstage view. Click **Info** in the left pane and then click the **Add Account** button.
- Outlook displays the Auto Account Setup page shown in Fig. 9.3. Follow the same steps described earlier in this Section to configure the new account.

9.4 SENDING E-MAIL WITH OUTLOOK



- To send an e-mail in Outlook, click the **New E-mail** button on the Home tab or press **Ctrl+N**. Outlook displays a blank New Message window on your screen, as shown in Fig. 9.7.

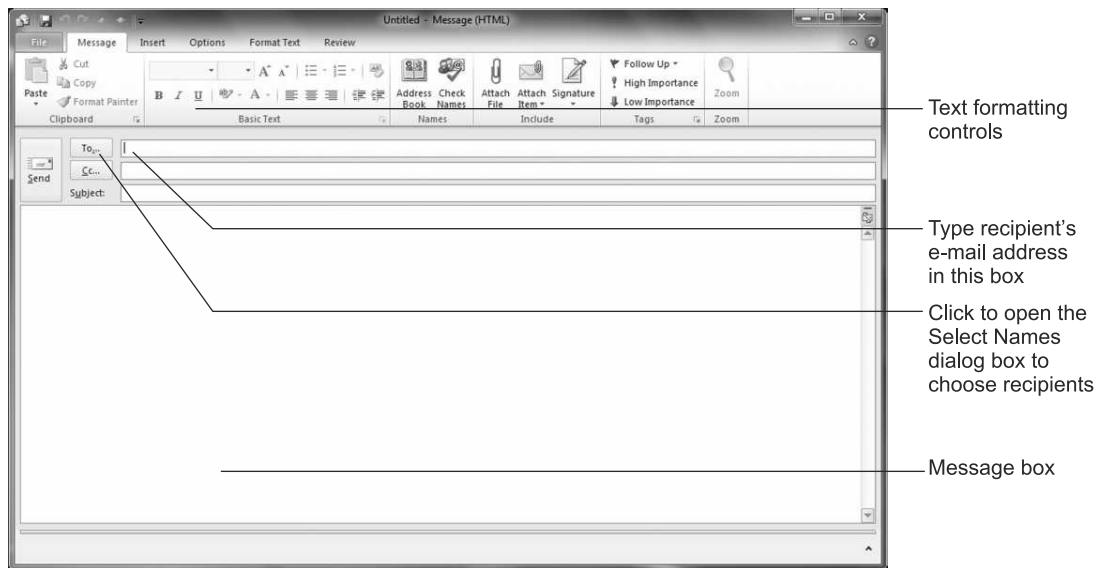


Fig. 9.7 The New Message window

When you are writing an e-mail, you must know the e-mail address of the person you are writing to. You need to enter that e-mail address in the **To:** box.

- Click in the **To:** box and type the recipient's email addresses. To send the same e-mail message to more than one recipients, type their e-mail addresses separated by a comma or semicolon, e.g., **raj@example.com; sunder@example.com**.

Note As you start typing the recipient's e-mail address or name, Outlook usually starts displaying the matching e-mail addresses below the box from the contacts list it maintains, due to the *AutoComplete* feature. To use any address from the suggested list and insert it in the address box, click it or use the arrow keys to highlight the desired address and press Enter. If you don't want to use any address from the suggested list, continue typing the e-mail address.

- You may also choose recipient(s) from the e-mail addresses available in the *Address Book* maintained by Outlook. To do so, click **To...** or **Cc...** and Outlook displays the list of contacts available in your Address Book to choose from the **Select Names** dialog box, as shown in Fig. 9.8. Now click the desired contact (e.g., Raj Verma) to select and then click the **To**, **Cc** or **Bcc**, button as required. After you have selected recipients from the Address Book, click the **OK** button to close the **Select Names** dialog box.

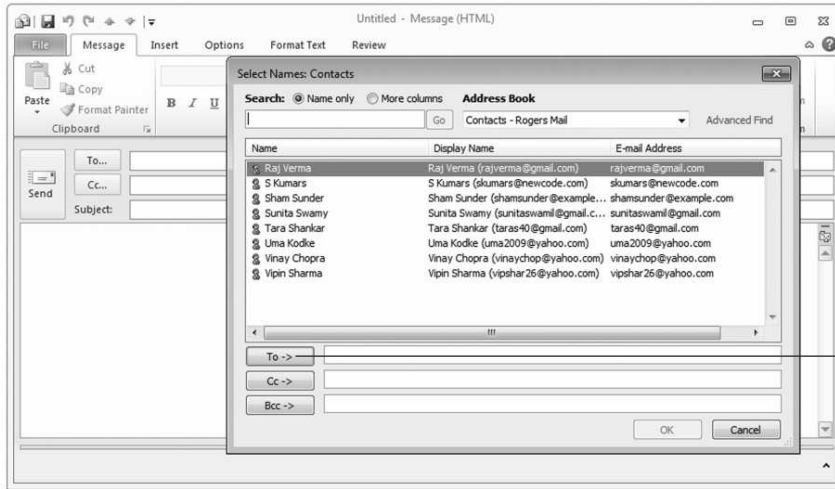


Fig. 9.8 Using the address book to select recipients

Note If you want to send the copy of the message to someone but do not want other recipients to know this, use Bcc (blind carbon copy).

- After you have typed/selected e-mail recipient(s), rest of the process of writing the e-mail message is similar to writing a regular mail. Type a suitable text in the *Subject* box and type the message in the *Message* box. Finally, click the **Send** message to send it.

Note If you have any Microsoft program, such as Word, Excel or PowerPoint, Outlook includes the spelling checking capability. To perform spelling checking on the message you are typing, press **F7** (or click **Spelling and Grammar** button on the Review tab) prior to clicking the Send button.

- If your Outlook is setup properly and your computer is connected to the Internet, Outlook sends your message immediately. If your computer is not connected to the Internet, Outlook may try to connect to the Internet. If it is able to send the message successfully, it moves the message to the *Sent Items* folder.

9.5 RECEIVING E-MAILS IN OUTLOOK



Receiving e-mails in Outlook is simple. When you start Outlook, it automatically connects to the incoming mail server and downloads all new e-mail messages available there into the Inbox folder. It also checks for new messages every few minutes.

- To manually check for messages on the mail server, click the **Send/Receive All Folders** button on the Home or Send/Receive tab on the ribbon. Besides receiving e-mail messages, it also sends any pending e-mail messages.

9.5.1 Reading a Message

Outlook displays the preview of the item selected in the Content (Folder) pane in the Reading pane. Therefore, to read a message:

- Click the corresponding folder, e.g., Inbox in the Navigation pane. Next, click the message you want to read in the Content pane and Outlook displays the preview of the message in the Reading pane, as shown in Fig. 9.9.

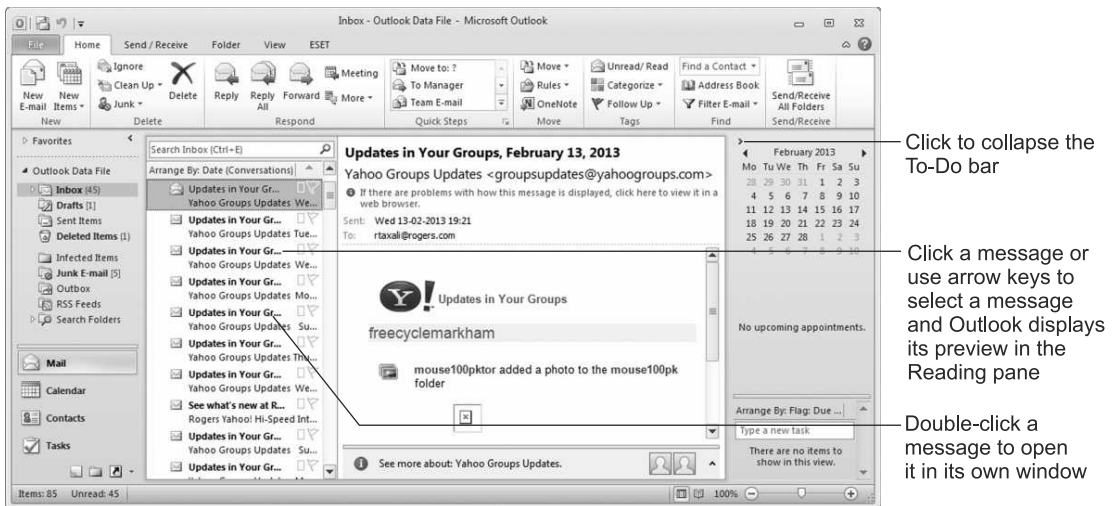


Fig. 9.9 Reading a message in the Reading pane

- You may use arrow keys to select another item in the Content pane, and as you select items, Outlook updates the Reading pane with the content of the selected message.
- If your Outlook window is displaying the To-Do bar, you may collapse it (see Fig. 9.9) to make more room for the Reading pane.

If the message is large, you may find it easy to read it in a separate window.

- To open a message in a separate window, double click the corresponding item in the Content pane, as illustrated in Fig. 9.9. Figure 9.10 displays a message open in its window.
- While you are reading the message in its own window, you may click the Previous/Next buttons on the Quick Access toolbar to display the previous/next message, as illustrated in Fig. 9.10.

9.5.2 Replying to a Message

After reading the message, if you want to reply to the message, Outlook can help you do so with ease in several different ways:

- If the message is open in its own window, click the **Reply** button (See Fig. 9.10.) or press **Ctrl+R**.

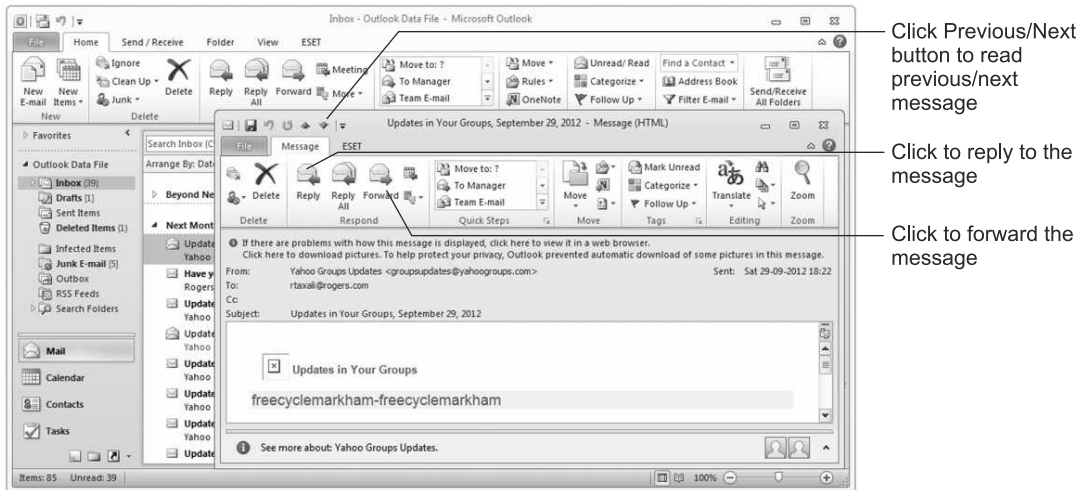


Fig. 9.10 Reading a message in its own window

- If you reading the message in the Reading pane, press **Ctrl+R** keys or click the Reply button on the Home tab on the ribbon.
- Right click the message in the Content pane and choose the **Reply** command.

Outlook opens a new window to type your reply. It automatically fills the sender's e-mail address in the To box. Usually, it also includes a copy of the message you received in the reply message.

9.5.3 Reply to All

If the message was originally sent to several people and you want to send the reply to all those people, use the **Reply All** command/button instead of Reply/Reply to Sender command/button.

9.5.4 Forwarding a Message

If you feel that the message, you have received was intended for some other person or someone else may find it useful/interesting, you may forward the received message. To do so,

- Select the message and click the Forward button on the ribbon. Then Outlook opens a message window similar to the New Message window and inserts the original message in the message box. It also adds "Fw:" to the original subject and enters it for you in the Subject box.
- You may type your comments and edit the message, if required. Finally, click the **Send** button to send the message.

9.5.5 Printing a Message

The procedure to print a message in Outlook is same as in Microsoft Word, Excel and PowerPoint.

- Select or open the message that you want to print.
- Press the **Ctrl+P** keys or click the **File** tab to open the Backstage view and then click Print in the left pane. Outlook displays the preview of the message.
- Choose the usual option, such as the printer, number of pages, etc., and click the **Print** button in the middle pane to print the message.



9.6 SENDING AN ATTACHMENT

If you want to send a file with your message, you can do so by including it as an *attachment* with the following steps:

- In the New Message window, click the **Attach File** button on the ribbon on the Message tab (see Fig. 9.11) or Insert tab. Outlook opens the Insert File dialog box as shown in Fig. 9.11.

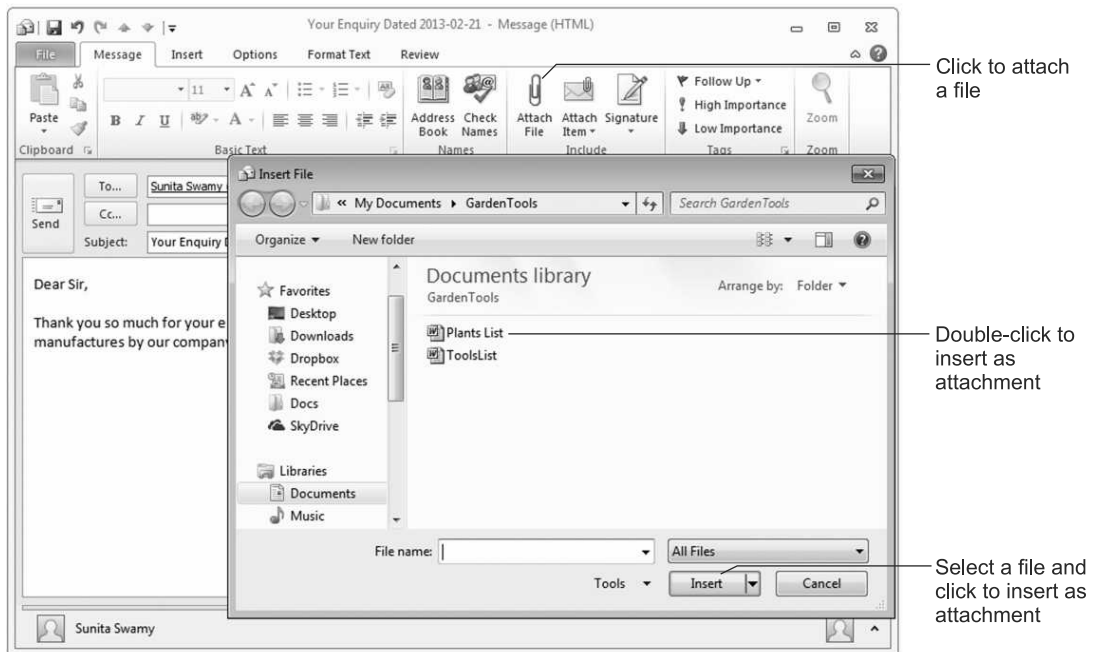


Fig. 9.11 Attaching a file to a message

- The Insert File dialog box operates like a typical File Open dialog box in Windows. Navigate to the folder that contains the file you want to insert. Then select the file and click the Insert button. Alternatively, double click the file that you want to attach.
- Outlook creates a new attached row above the message box and displays the name of the attached file in this box.
- Repeat the same steps to attach additional file(s).
- To send the message with attachments, click the **Send** button.

Note You can select multiple files in the Insert File dialog box followed by the Insert button to attach multiple files in one go.

9.6.1 Saving Attachment(s)

If the message you received contains attachment(s), Outlook identifies this by displaying the *paper clip icon* (see Fig. 9.12) with the message in the message list in the Content pane. Also when you preview

the message in the Reading pane or open it, Outlook displays filenames for the attached files in the message header, as shown in Fig. 9.12.

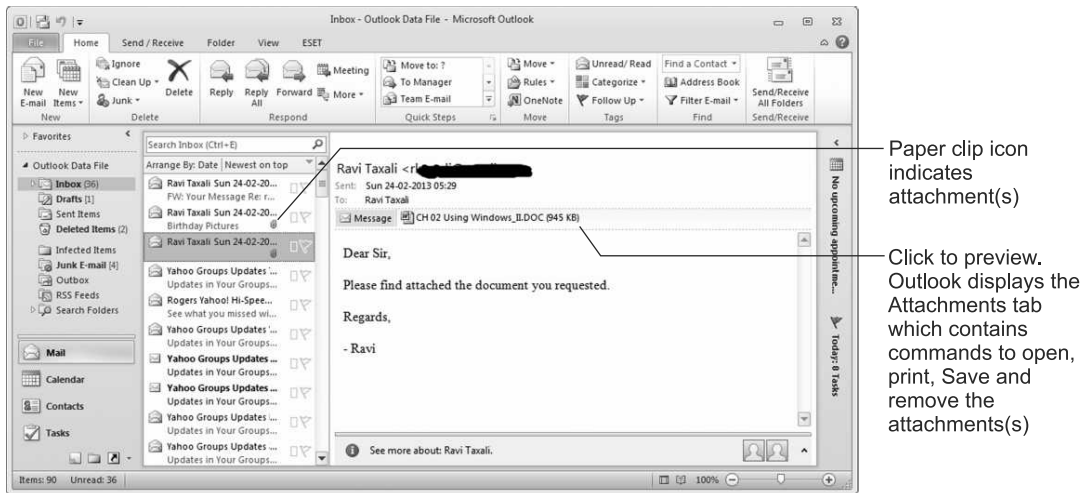


Fig. 9.12 A message with attachment

- To preview the file, click the attachment filename. On clicking the attachment, Outlook also displays the Attachments tab in the ribbon which has commands, to open, quick print, save one or all attachments to your computer as well as to remove the attachment. You may also open an attachment by double clicking the attachment filename in the message header.

Note For security reasons, Outlook may prevent you from opening certain files that may contain virus. Also, for safety reasons, you should download a file to your computer, scan it for virus before opening.

9.7 MANAGING MESSAGES



Outlook puts all your incoming messages in the Inbox folder. If you do not do anything with the messages sitting in the Inbox folder, soon you may have so many messages in this folder that it may become difficult to go back to a particular message you received a few days back. To overcome this problem, here are some options.

9.7.1 Delete Messages

After you have read the message and replied to, if required, if you think that you do not need to save it for future, delete it. Deleting a message is very simple:

- In the Outlook windows, select the folder that contains the message (e.g., Inbox) and click the message you want to delete in the messages list in the Content pane. To select multiple messages, use **Shift Click** or **Ctrl Click**.
- To delete selected message(s), press the **Del** key, press **Ctrl+D** or click the **Delete** button on the ribbon on the Home tab.

When you delete a message, it is not gone for ever. Outlook puts the deleted messages in the Deleted Items folder. So if ever need to read or get back the deleted message, you can find it in the *Deleted Items* folder. To clean-up the Deleted Items folder, you should periodically review this folder and delete messages from this folder.

Tip To permanently delete a message from any folder, select the message(s) in the messages list and press **Shift+Del**.

9.7.2 Flag a Message for Follow Up

If you have received an important message, you can flag it for quick identification and follow up. Figure 9.13 displays two flagged messages.

- To flag message(s) for follow up, select the message(s) in the Content pane and click the Flag icon on the right side of the message, as illustrated in Fig. 9.13. An alternate way to flag a message is through the use of the Follow Up button on the Home tab, which also lets you choose the type of flag.
- To clear the flag, click the Follow Up button and click Clear Flag in the menu, as illustrated in Fig. 9.13.

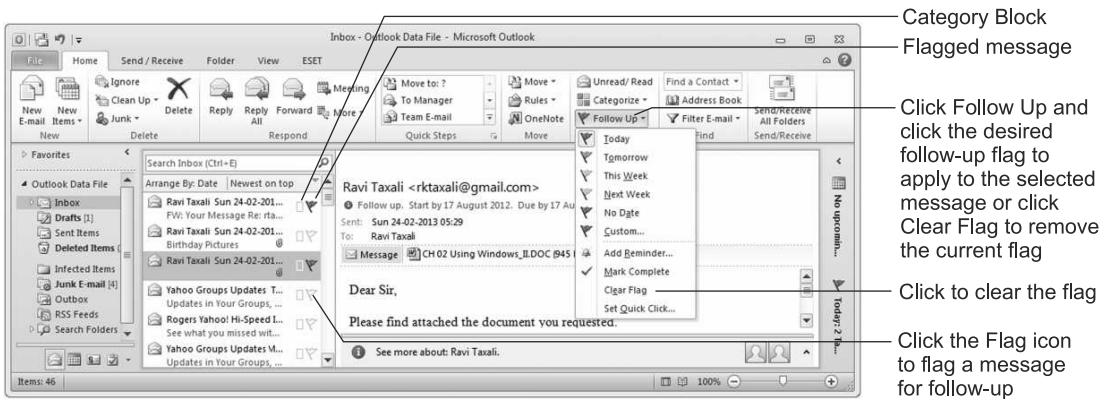


Fig. 9.13 Flagging a message

9.7.3 Assigning a Category to the Message

You can receive various types of messages from different sources. For instance, you may receive messages from your colleagues, boss, suppliers, clients, friends, and so on. Besides, some messages may be very important, some may be less important while others may be just for information. To help you differentiate different types of messages, Outlook can help you assign one or more categories to these messages. You can create any number of categories and assign a separate color to each category. When you assign a category to a message, Outlook displays the category color in the *Category Block* (See Fig. 9.13).

- To define new categories or customize predefined categories, click the **Categorize** button on the Home tab and click **All Categories** in the displayed menu.
- To assign a category to the current or selected messages, click the **Categorize** button to display a menu containing defined categories and click the desired category. On applying a category,

Outlook displays the corresponding color in the Category block in the Content pane. Follow the same procedure to assign additional categories or clear applied categories.

9.7.4 Organize Messages in Folders

After deleting unwanted messages, you may still be left with a lot of messages. Keeping all these messages in the Inbox folder is not a good idea. Similarly, all messages that you send are stored in the Sent Items folder, and this folder will also keep growing as you keep sending messages. The best practice is to *file* these messages in appropriate folders, just like we file received/sent papers in respective file folders. To accomplish this, the first step is to create new folder(s). Follow these steps to create a new folder.

- Click the **Folder** tab on the ribbon and then click the **New Folder** button in the New group. Outlook displays the Create New Folder dialog box shown in Fig. 9.14.

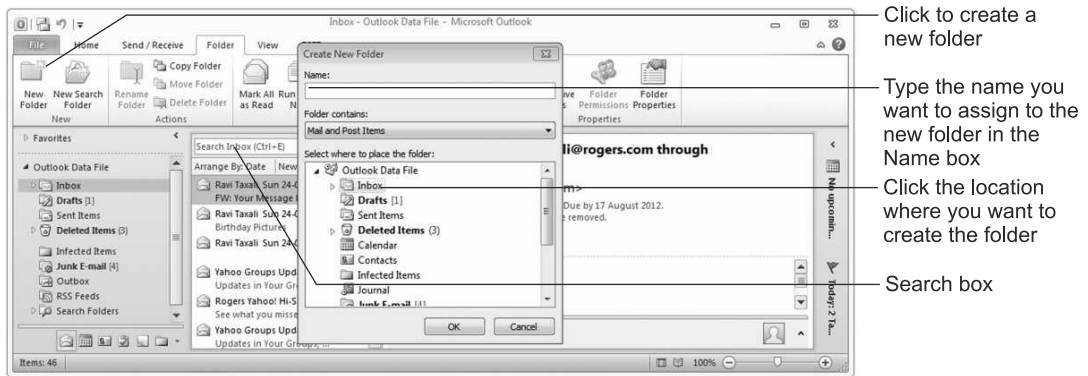


Fig. 9.14 Creating a new folder

- Type the name that you want to assign to the new folder, e.g., **Sports** or **Production Planning** in the *Name* textbox.
- Click the location where you want to create the folder. For instance, if you want to create the new folder within Inbox, click **Inbox**. On the other hand, if you want to create the new folder at the same level as Inbox, click **Outlook Data File** or the parent of Inbox. Finally click OK.

Outlook creates the new folder Sports and displays it in the Navigation pane. Like Windows Explorer, Outlook lets you create folders within a folder. For instance, you can create Cricket, Hockey and Tennis folders under the Sports folder. After you have created the required folders, you can move or copy a message from one folder to another, just like you move or copy files in Windows Explorer with these basic steps:

- In the Outlook window, select the folder that contains the message (e.g., Inbox) and then select the message you want to move/copy in the Content pane. To select multiple messages, use **Shift Click** or **Ctrl Click**.
- To move the selected message(s) to another folder, drag these to the required folder. To make a copy of the selected message(s) into another folder, drag these while keeping the **Ctrl** key pressed.

9.7.5 Finding a Message

When you use several folders, sometimes you may not recall which folder you put a particular message in. And occasionally, you know that the message should be there in a particular folder, yet you cannot find it. In that case, you may take the help of the Outlook's find feature. Outlook can find messages in a specific folder as well as its subfolder. Follow these steps to use the Find command:

- Click the folder that you want to search for in the Folders box, e.g., **Inbox**.
- Click in the Search box located at the top of the Content pane (see Fig. 9.14). When you click in the Search box, Outlook displays Search Tools on the ribbon.
- Type the text you want to search for in the Search box and Outlook refreshes the Content pane with the matching items.
- If you do not see the desired results, you can change the scope of the search from the current folder to all folders by clicking **All Outlook Items** in the Scope group on the ribbon.

9.7.6 Customizing Content Pane and Sorting Messages

Outlook displays some details about messages, such as From, Date, Subject, etc., in the Content pane. You can customize the Content pane by including additional details or removing any information that you do not need. Also, by default, the messages are displayed in the descending order of the received date, i.e., the latest messages are displayed at the top.

- To change the sort order or customize the display of the Content pane, click the left side of the header and Outlook displays a context menu shown in Fig. 9.15.

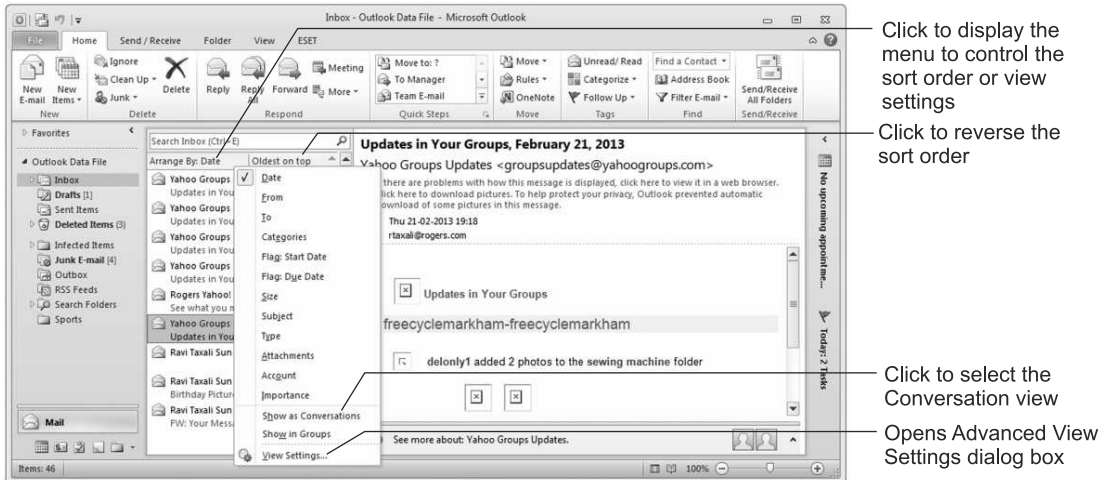


Fig. 9.15 Customizing the Content pane and sorting messages

- In the menu, the current sort order is marked with the check mark, e.g., **Date** in Fig. 9.15. To change the sort order, click the corresponding item, e.g., click **From** to sort by the sender's address.
- To change the information displayed in the Content pane, click **View Settings** in the context menu to display Advanced View Settings dialog box. Then click **Columns** and choose the columns you want to include in the display.

9.7.7 Conversation View

Outlook can link outgoing and incoming messages as *conversations*. For example, you send a message to someone, and then that person reads the message and clicks the Reply button to reply to it. And then you click the Reply button to reply to that message and so on. In regular view, all messages you send are available in the Sent Items folder and all messages you receive are available in the Inbox folder. However, it becomes difficult to link these messages together to know the sequence of communication. Since Outlook 2007, you can combine all these messages as a conversation, thus you see all sent and received messages on a subject at one place. Figure 9.16 displays Outlook operating in the Conversation view. Notice that Outlook displays “(Conversation)” in the header of the Content pane.



Fig. 9.16 Outlook displaying messages in the conversation view

- To collapse/expand a conversation, click the Windows Explorer type triangle icon displayed to the left of the message subject. To view individual message, click the corresponding message in the Content view.
- To switch to Conversation view or from Conversation view to regular view, click the header in the Content pane to display the context menu and click **Show as Conversation** (See Fig. 9.15.)

9.8 HANDLING SPAM (JUNK E-MAIL)



As you know that once you have the Internet connectivity and an e-mail account, sending e-mails is almost free. Accordingly, some marketing companies send unsolicited, bulk e-mails to promote their products or services. These kinds of e-mail messages are called *spam* or *junk e-mail*. You cannot hide your e-mail address from these spammers for long; eventually they will get hold of it. Therefore, you are bound to receive some amount of spam. However, you can use features available in Outlook to reduce spam. Outlook has a built-in junk email filter which sends junk emails to the Junk E-mail folder as per the Junk E-mail filter setting.

- To view or change Junk E-mail filter setting, click **Junk** in the Delete group on the Home tab to display a menu and then click **Junk E-mail Options**.

Outlook display the Junk E-mail Options dialog box. The default filter option is Low, which is good to catch obvious junk e-mails. You may change it to High or Safe List.

9.8.1 Block Sender

You can block a sender, so that Outlook blocks any message sent by that sender. If you want to block a sender whose message is available in any of the folders, perform these steps:

- Select the message in the Content pane.
- Click **Junk** on the Home tab to display a menu and click **Block Sender** in the menu.

Note To remove a sender from the Blocked Senders List or to manually add a sender to the list, click **Junk, Junk E-mail Options** to display the Junk E-mail Options dialog box. Then add/remove the email addresses on Blocked Senders tab in the dialog box.

9.8.2 Delete Message through Rules

To precisely define messages that you want to block, you can define messages rules. You can define any number of rules to take care of various situations. For instance, you can block messages that come from certain senders, contain certain words in subject or message body, TO or CC contains specified people and so on. Next, you can ask Outlook to take specified action for each message rule, such delete it, move to certain folder, flag the message, etc.

- To define a new rule, click **Rules** on the Home tab to display a menu and then click **Create Rule** in the menu. Outlook displays the Create Rule dialog box, as shown in Fig. 9.17.

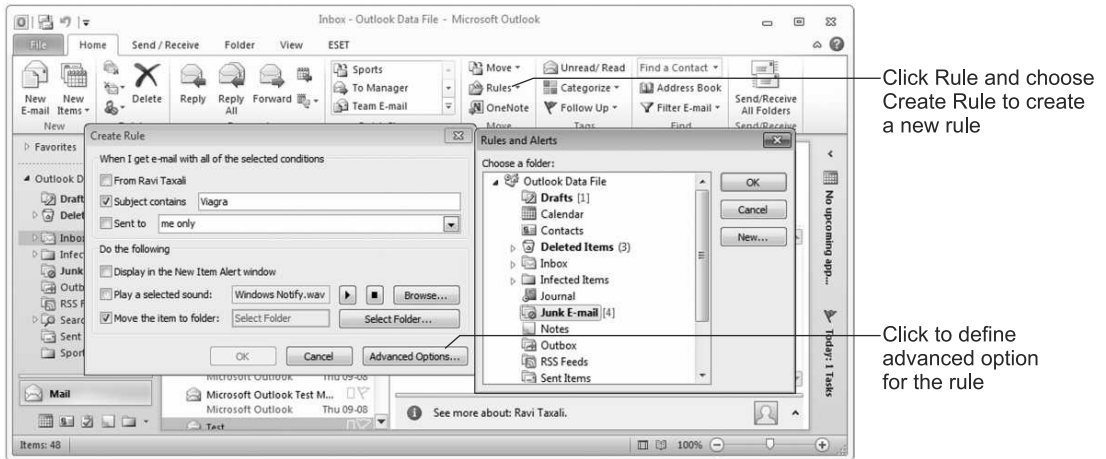


Fig. 9.17 Creating a new rule

- Check the required checkboxes and enter the required details in the corresponding text boxes. Figure 9.17 displays a new mail rule being defined, which is “Move the mail message to the Junk E-mail folder if the subject line contains the word “Viagra”.

Note You may also use rules to organize the incoming e-mails, e.g., move e-mails coming from **Sales@example.com** to the Sales folder.



9.9 USING SIGNATURES WITH MESSAGES

If you are working for a company, you may like to include your name, designation, phone number, fax number, etc., at the bottom of all messages you send. Even if you use Outlook to send personal messages, you may like to put your name, phone number and other details at the end of each message. To define a signature:

- Click the **File** tab on the ribbon to open the Backstage view. Then click **Options** in the Navigation pane on the left to display the Outlook Options dialog box.
- Click **Mail** in the left side of the Outlook Options dialog box to display the Mail options. (See Fig. 9.18)

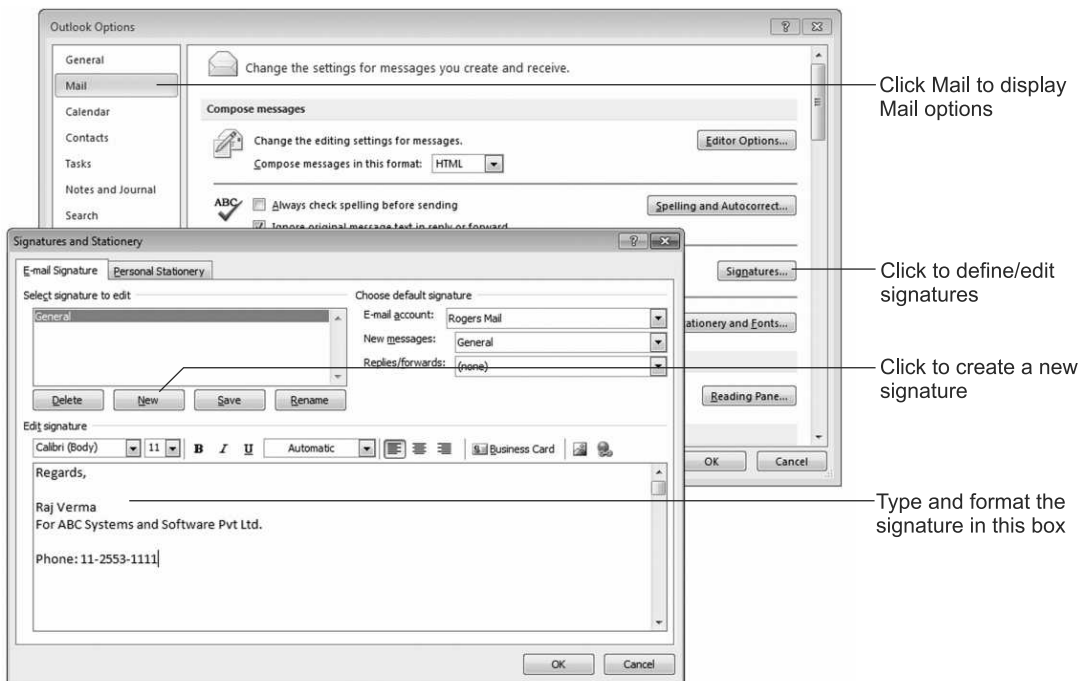


Fig. 9.18 *Defining signature*

- Click **Signatures** to open the Signatures and Stationery dialog box. To create a new signature, click the **New** button (see Fig. 9.18) and assign a name for the signature.
- Type and format the signature text in the Edit Signature box. Finally click **OK** to close the Signatures and Stationery dialog box. Click **OK** again to close the Outlook Options dialog box.

After you have defined the signature, Outlook automatically puts the signature text in the message box when you create a new message.



9.10 MANAGING CONTACTS

These days, most users communicate with so many people via e-mail that it is very difficult to remember all these e-mail addresses. To make your job simple, Outlook maintains an address book, which contains e-mail address and other details regarding your *contacts*. Address Book can store a lot of information, such as Name, e-mail address, Company, Home Address, Office Address, Date of birth, etc., about each contact, however, for using with Outlook, you just need to have an e-mail address and Name (optional). You can copy with ease an email address from the e-mail message you have received.

- Open the e-mail message you have received and right click the Name in the message header to display a context menu as shown in Fig. 9.19.

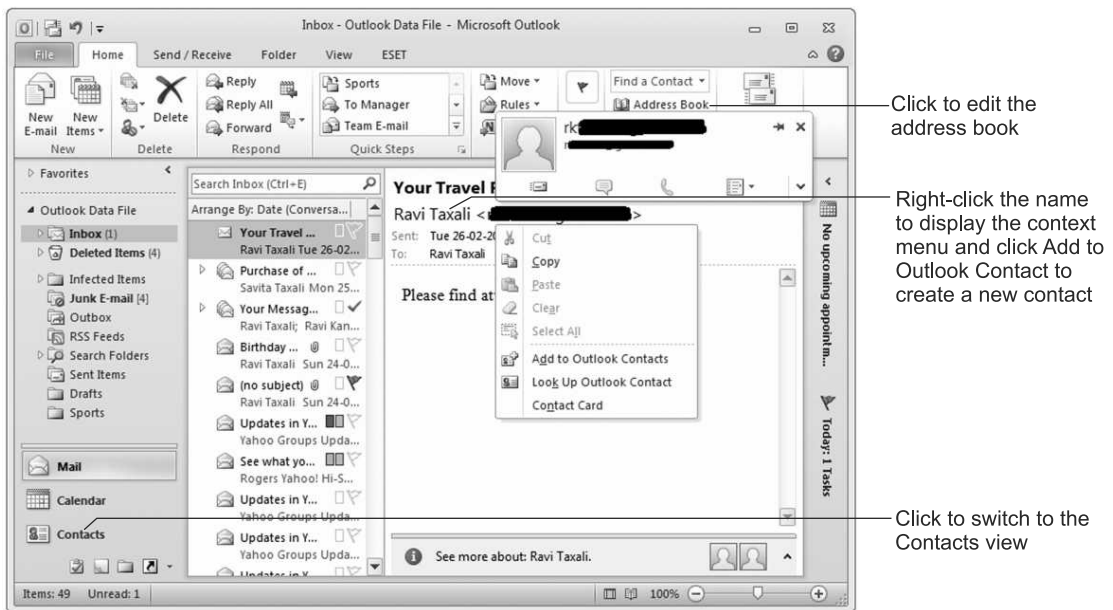


Fig. 9.19 Creating a new contact

- Click **Add to Outlook Contacts** to create a new contact.
- Outlook creates the new contact and displays it on the screen. Now you may add additional details for the contact, if available. Finally click **Save and Close** on the ribbon.
- If you want to maintain your address book, you may click **Address Book** on the Home tab (See Fig. 9.19.) This displays all defined contacts in the form of a list and you can edit or delete existing contacts or create new contacts.
- An alternate way to manage your contacts is by switching to the Contacts view by clicking **Contacts** in the Navigation pane.



9.11 YAHOO! MAIL

Yahoo! Mail is one of the three big webmail service providers. It offers unlimited e-mail storage, so you do not need to delete any message.

- To login to your Yahoo! Mail account, visit **mail.yahoo.com**. The webpage redirects you to the login page where you type your Yahoo! ID (e-mail address) and password and click the **Sign In** button.

Note The login page has a checkbox – “Keep me signed in”. If you check this checkbox prior to clicking the Sing In button, Yahoo! Mail will keep you logged in. You should use this option only on your home or office computer that is used exclusively by you.

After successful login to the mail account, Yahoo! Mail displays your mail account (see Fig. 9.20). The left side of the page displays e-mail and other folders. Notice that Yahoo! Mail displays a personalized greeting and the number of unread messages in the Inbox folder. In the middle, it displays list of messages with unread messages in bold letters. Rest of the page displays other useful (and not so useful) information and advertisements. This is the price you pay for getting the free e-mail service.

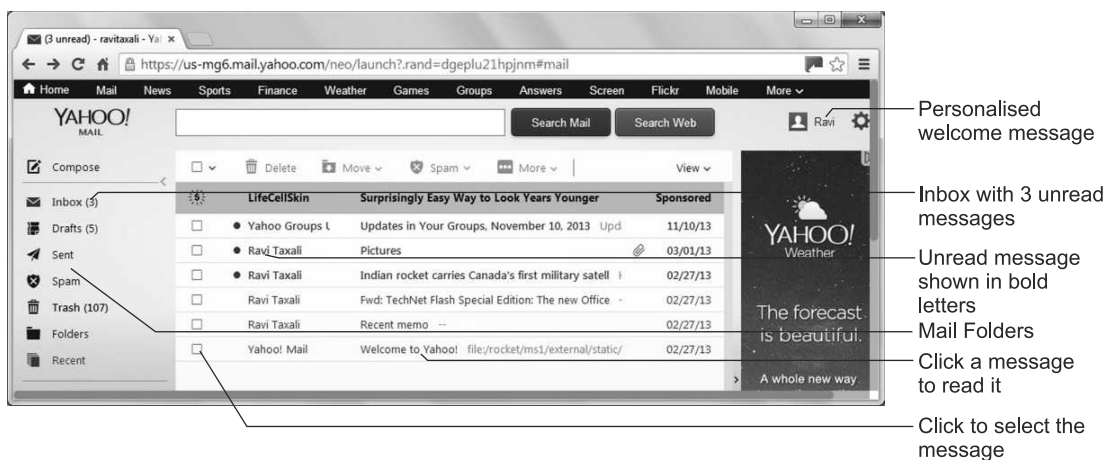


Fig. 9.20 Yahoo! Mail home page

9.11.1 Sending an E-mail Message

- To send a new e-mail message, click the **Compose** button. (See Fig. 9.21.)

Yahoo! Mail opens the New Message tab for composing the new mail message shown in Fig. 9.21.

If you have used any other e-mail program to send a message, you would find the process of composing and sending a message in Yahoo! Mail quite similar.

- Type the recipient's e-mail addresses in the To box. As you start typing the e-mail address in the To box, Yahoo! displays suggestions matching the entered characters. To display the CC or BCC box, click **CC**. Then click **BCC** if required.

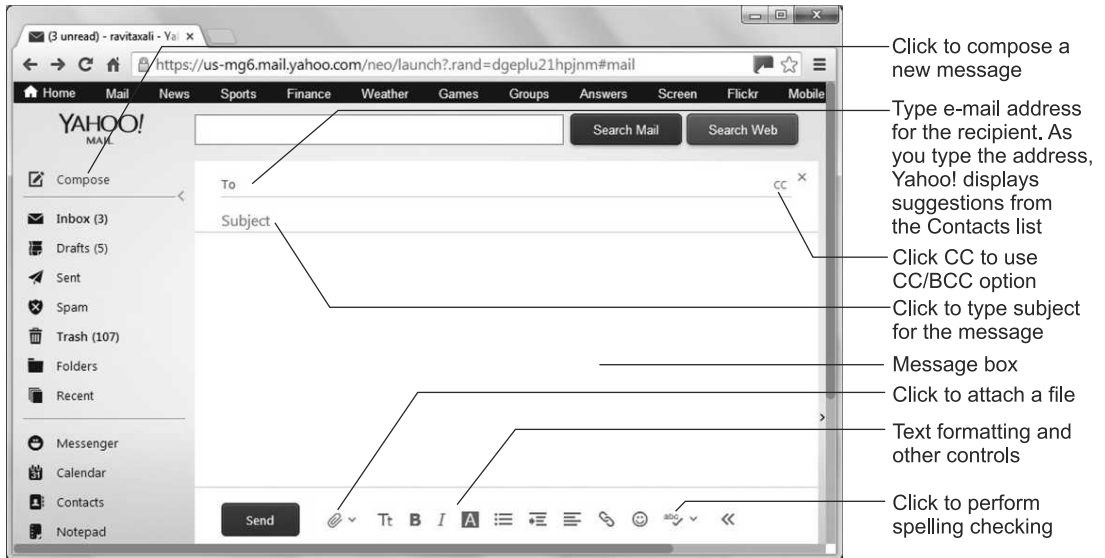


Fig. 9.21 Sending a new e-mail message

- Type a suitable *subject* in the Subject box.
- Type the message in the message box.
- Use appropriate formatting buttons located below the message box to format the message.
- To perform spelling checking, click the **abc** icon in the message's formatting toolbar as illustrated in Fig. 9.21. Yahoo! Mail highlights the misspelled words with red underline. To view suggestion for a misspelled word, right click the word.
- To attach a file with the message, click the **Attach File** button. (See Fig. 9.21.) Then choose the file from the Open dialog box displayed by Windows.
- Finally, click the **Send** button to send the message.
- Yahoo! Mail puts all sent messages in the *Sent* folder.

9.11.2 Reading Mail

- To read e-mail messages available in any folder, click the corresponding folder, e.g., Inbox in the Folders box on the left side of the window.
- Click the message you want to read in the messages list (See Fig. 9.20). Notice that unread messages are shown in bold letters.

Yahoo! displays the message, as shown in Fig. 9.22. If the message contains any attachments, it displays the corresponding details below the message subject. Depending on the type of the attachment, it may also display its preview. In any case, it displays a links that you can use to save the attached file to your computer.

- If you want to read the next message, click the **Next Up** or **Next Down** button, as shown in Fig. 9.22.



Fig. 9.22 Reading a message

9.11.3 Taking Action on the Message

After you have read a message, depending on the message, you may take some action on it, e.g.,

- ☐ Delete it
- ☐ Forward it
- ☐ Reply to it
- ☐ Print it
- ☐ Mark the message as spam
- ☐ Move the message to a specified folder
- ☐ Do nothing, but read next/previous message

To perform these common tasks, Yahoo! Mail provides convenient buttons shown in Fig. 9.22.

- To delete a message, click the **Delete** icon, and Yahoo! Mail moves the message to the Trash folder. It automatically removes messages from the Trash folder at regular intervals. To manually empty the Trash folder, click the **Delete** icon located on the right of the Trash folder in the left Navigation bar.
- To reply to a message, click the **Reply** icon (See Fig. 9.22) and Yahoo! Mail opens a new tab, which is similar to sending a new message, except that it automatically fills sender's e-mail address in the To box. It also prefixes "Re:" to the original subject in the Subject box and puts the original message and other relevant details in the message box. To send the reply to all recipients included in the message, click the **Reply All** icon (See Fig. 9.22.)
- Click the **Forward** icon to forward a message to an e-mail address. The process is almost similar to replying to a message, except that the To box is not filled and Yahoo! Mail prefixes the original subject with "Fw:" instead of "Re:"

- Printing a message is simple—just open the message or select it in the message list, click **More** to display a context menu and choose the **Print** command. You can also press **Ctrl+P** to print the message. On using the Print command, Yahoo! opens the message in a new window which contains the Print link.
- If you received a spam message, select or open the message and click the **Spam** button. It moves the message to the Spam folder and also alerts Yahoo! Mail about the message so that it may refine its spam filters.

9.11.4 Creating a Folder

To organize your messages, you may create new folders and move selected messages to these folder. For instance, you may create a Purchase folder to store messages related to online purchases you do on the Internet. To create a new folder:

- Click the **Folders** button located on the right of Folders in the left Navigation bar. (See Fig. 9.22.) The left navigation displays the folders column which contains Add folder icon at the top. Click the Add folder icon to display a dialog box where you type the name you want to assign to the new folder. Click **OK** and the new folder is ready.

9.11.5 Moving Messages to a Folder

You can move message(s) available in a folder to another folder with these steps:

- Click the folder (e.g., Inbox) that contains the messages in the left Navigation bar
- Click the checkbox to the left of the message (see Fig. 9.20) to select the message(s) you want to move. Select additional message(s), if required.
- Drag the selected message(s) to the required folder in the Navigation pane.

9.11.6 Managing Contacts List

Yahoo! Mail enables you to manage your contacts list. The easiest way to build your contacts list is by adding senders of the messages you receive to it. You can accomplish this with these steps:

- Open the message whose sender you want to add to the Contacts list.
- Click **Actions** to display a context menu and then click **Add Sender to Contacts** in the menu.
- If you want to manually add a contact to the Contacts list, click the **Contacts** tab and then click **New Contact**.

9.12 MICROSOFT HOTMAIL



Microsoft Hotmail, formally known as Windows Live Hotmail was a popular webmail service provided by Microsoft until April 2013 when this service was retired in favour of *Outlook.com*. It is estimated that there were close to 400 million active Hotmail users who were forcibly migrated to Outlook.com. All those users can still access their Hotmail e-mail account using the hotmail e-mail address and password on Outlook.com. If you prefer, you can even get a new hotmail e-mail addresses through Outlook.com, however, if you try to access the Hotmail website, **www.hotmail.com**, you are automatically redirected to Outlook.com.

Note Since Hotmail has completely retired by summer 2013, we are not discussing the Hotmail interface in this book.



9.13 OUTLOOK.COM

Outlook.com is Microsoft's latest web based e-mail service, which replaces Hotmail with a new interface. All Hotmail users have been forcibly migrated to Outlook.com by April 2013. If you ever held a Hotmail e-mail address, you should still be able to access your messages on Outlook.com. You can continue to use your existing e-mail address with Outlook.com or get a new Outlook.com address.

- To login to your Outlook.com (or Hotmail) account, visit **www.Outlook.com**, enter your e-mail address and password, and click the **Sign In** button. Fig 9.23 displays the opening webpage of a sample Outlook.com account.

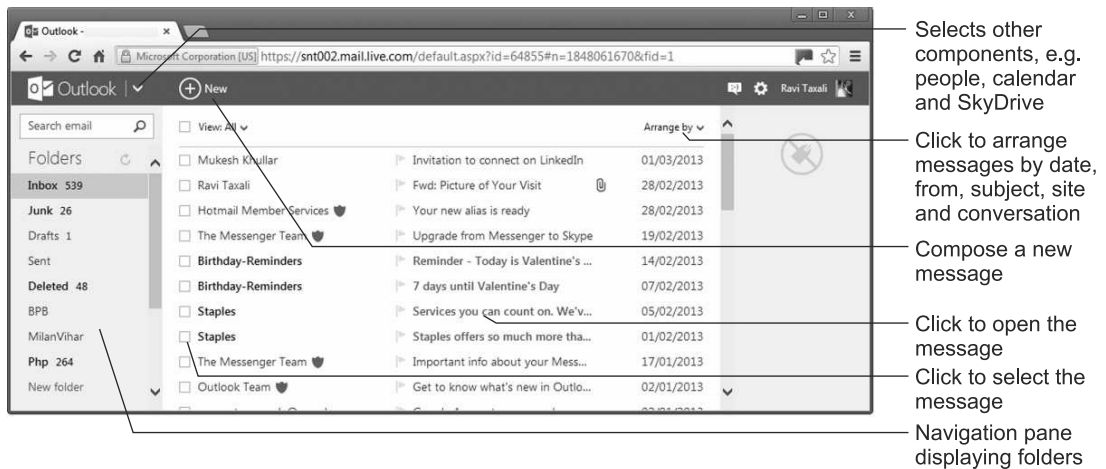


Fig. 9.23 Outlook.com displaying messages list

The Outlook.com interface is divided in three panes. The Navigation pane on the left displays folders, the middle pane displays the messages list or the opened message and the right pane shows different content depending on the context. At the top, it displays a Command bar which displays commands depending on the context. For instance, when you open a message for reading or select it by clicking the checkbox displayed at the left in the message list (see Fig. 9.23), it displays additional commands to act on the message.

9.13.1 Reading a Message

- To read a message, click it in the messages list. Outlook.com displays the message in the middle pane and adds commands in the Command bar at the top to take an action on it, as shown in Fig. 9.24.

When Outlook.com displays a message, it displays the message header at the top which contains subject, sender's details and the date/ time the message was received. If the message contains any attachments, it displays the file details and preview of the file(s), if applicable and links to download the file(s) to your computer. For instance, the message in Fig. 9.24 displays the preview of three picture files attachments and links to download the same. Notice the message also has a link to play the slideshow of

the attached picture files. After the messages header is displayed the message, which may also contain embedded pictures and web-links.

- After reading the message, if you want to read the next message, click the **Next Message** button, as shown in Fig. 9.24.
- To close the message and return to the message list, click the Close button located on the right of the Next Message button.

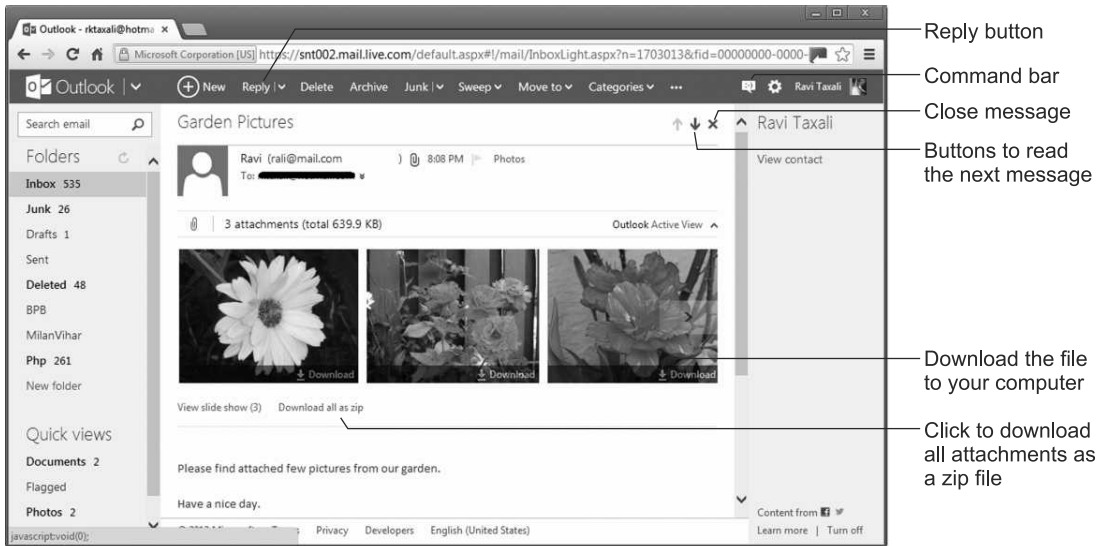


Fig. 9.24 Reading a message

9.13.2 Taking Action on the Message

While reading a message or after you have selected one or more messages in the message list, you can take several actions on a message.

- If you want to reply to the message, click the **Reply** button on the Command bar. If you want to use the Reply All option or want to forward the message to someone, click the **Down arrow** located next to **Reply** to display a menu and click the appropriate command.
- To delete the current or selected messages, click **Delete** on the Command bar.
- To send the selected message(s) to the Junk folder, click **Junk** on the Command bar.
- Use **Move to** on the Command bar to move the message(s) to any folder. Of course, you may also drag the selected message(s) to any folder in the Navigation pane.
- Click **Archive** to archive selected message(s). Archive moves the messages to a defined archive folder, thus helping to keep the number of messages in the Inbox within manageable limit. Use archive instead of delete if you feel that you may need to refer to a message in future.
- Use **Categories** to group your messages in different categories. You can assign one or more categories, such as Shopping, Personal, Sales, Office, Family, etc., to any messages. Assigning a category is like assigning a label or tag to a message. To view messages belonging to any category, click the category name under *Quick Views* in the Navigation bar.

9.13.3 Sending a Message

- To send a new message, click the **New** button on the Command bar (see Fig. 9.23) and Outlook.com displays a form to compose the new message, as shown in Fig. 9.25.

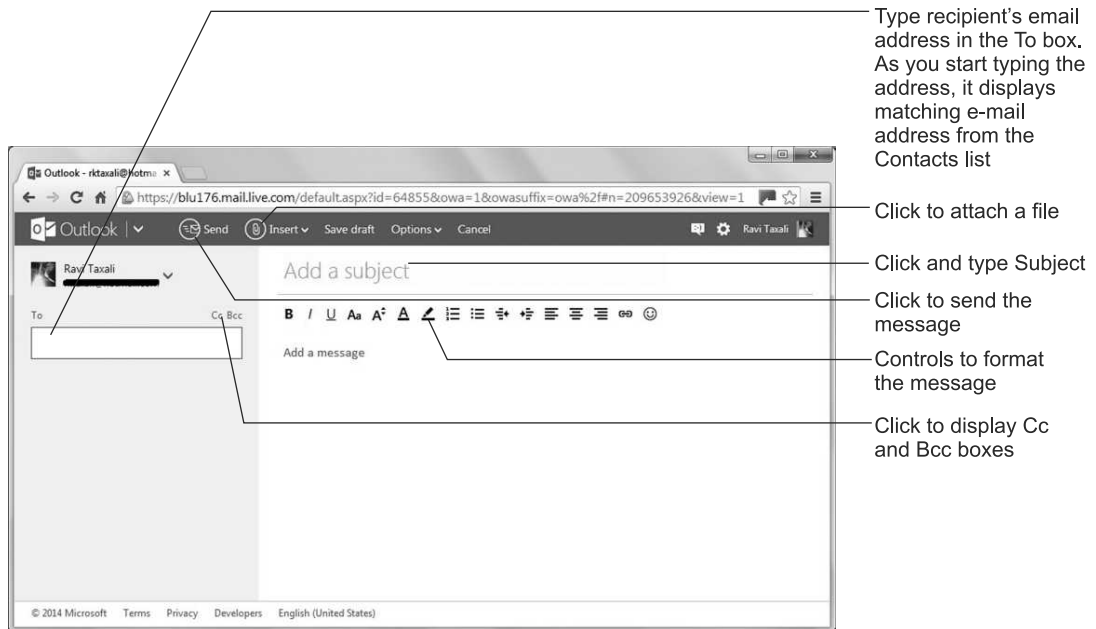


Fig. 9.25 A new e-mail message being created in Outlook.com

- Type the recipient's e-mail address in the To box. Notice that as you start typing e-mail address in the To box, it suggests you e-mail addresses matching the entered characters and enables you to choose an e-mail address from the displayed list. You may also click the **To** link to pick addresses from the Contacts list. Follow the same step if you want to send the message to multiple recipients.
- If you send the Carbon copy (Cc) or Blind carbon copy (Bcc) of the message to someone, click the **Cc & Bcc** link to display corresponding boxes.
- Click **Add a Subject** and type a suitable subject for the message. Of course, if you wish, you may send a message without subject.
- To attach a file, click the **Insert** icon to display a menu with three options—Files as attachments, Picture inline and share from SkyDrive. Use the first option to attach file(s) to the message. Use the second option (Pictures inline) to display picture, within the message. You may use the SkyDrive option to share files from your Microsoft SkyDrive service.
- Type and format the message in the message box. The message box displays common message formatting controls, as shown in Figure 9.25. You may format selected text in bold or italic style or pick the required font or size for your message—just select the text and click the corresponding formatting control.
- By default, Outlook.com sends the message in *Rich Text* format, which is good in most cases. However, if required, you may choose to send the message in *Plain text* or *HTML* by choosing appropriate options from **Options** in the Command bar.

- Finally, click the **Send** link to send the message. The sent messages are saved in the Sent folder. If you don't want to send the message now, click **Save draft** to save the message in the Drafts folder. Later, you may open the Draft folder to edit and send the message.

9.13.4 Searching E-mail

Outlook.com provides a convenient *Search email* box at the top of the Navigation pane to search for e-mail.

- To search for e-mails, type the search text in the Search email box. As you type the search text, Outlook displays search options, as displayed in Fig. 9.26.
- To perform the complete search, i.e., find e-mails where the search text is found in the *message*, *e-mail address*, *from*, *subject* and *to*, press **Enter** or click the search icon in the search box.

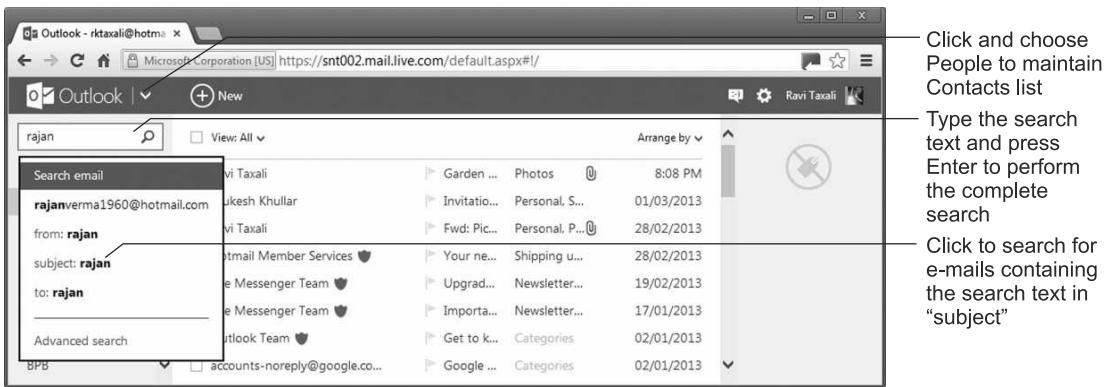


Fig. 9.26 Searching e-mails

- If you want to perform specific search, e.g., find e-mails containing the search text in *subject*, click the corresponding search option, as illustrated in Fig. 9.26.
- For complex search requirements, click **Advanced Search** and define the search conditions.

9.13.5 Managing Contacts

Outlook.com maintains a contacts list to help you select recipients for sending e-mails. To build your contacts list, you can add e-mail addresses of the senders of the messages you receive with these steps:

- Open the message in any folder.
- Click the **Add to Contact** link in the message header. Outlook.com automatically displays this link if the sender's e-mail address is not found in the contacts list.
- To maintain the contacts list in interactive way, click the arrow to the right of the Outlook button (see Fig. 9.26) and choose **People**. Outlook switches to the People mode and the Command bar displays commands to add, edit, delete and group contacts as shown in Fig. 9.27. It also has options to import contacts from Google contacts, Facebook friends, LinkedIn contacts, Twitter contacts, etc. After you have edited/added contacts, click the arrow to right of the People button and choose Outlook.com to switch back to Outlook.com.

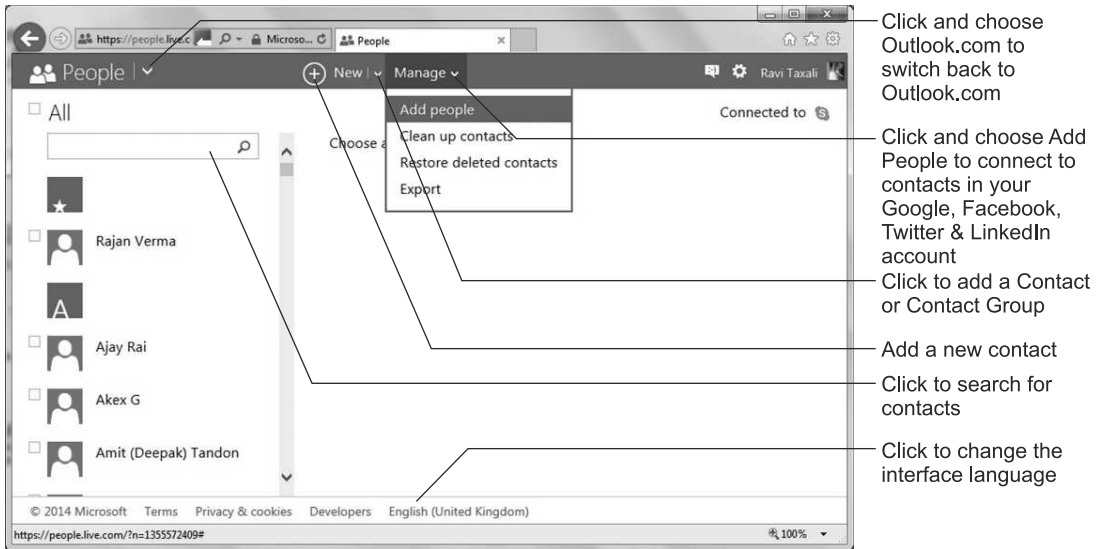


Fig. 9.27 Managing contacts in Outlook.com

9.14 GOOGLE MAIL (GMAIL)



Google Mail (Gmail) revolutionized the webmail scene in 2004 when it offered its service with 1 GB storage to users. This was significantly more than few MB being offered by Hotmail and Yahoo! Mail at that time for the free accounts. The storage space allowed free of charge has since increased to over 15 GB as of January 2014.

- To create your Gmail account or to login (sign in) to your Google Mail account, visit **mail.google.com** or **www.gmail.com**. Google also display the Gmail link on the Google home page (Google.com/Google.co.in) and you may click this link to login to your account. During the login process, you may type your complete Google Mail address (e.g., **rajkumar@gmail.com**) or just the username part (e.g., **rajkumar**). Figure 9.28 displays a sample screen after login.

The left side of the Google Mail screen displays folders and labels (to be discussed) and contacts. At the top of the screen is the e-mail search box. On the right side of the search box are located links to switch to other Google services and applications; we will talk about these later. Below the search box are located controls to take action on e-mail messages. Gmail displays the list of messages below these controls. Notice that Gmail classifies the messages in categories, such as Primary, Social and Promotions, and accordingly has separate tabs for these categories. To view the messages available in a category, click the corresponding tab name. If there is a new message in any category that you have not read, Gmail displays a suitable note in the tab header, as illustrated in Fig 9.28. Like a typical e-mail program, Gmail displays unread messages in bold letters. The checkbox displayed to the left of the message is used to select the message. On selecting a message, Gmail highlight it, as shown in Fig 9.28. You can apply certain commands on the selected messages, as you will see soon.

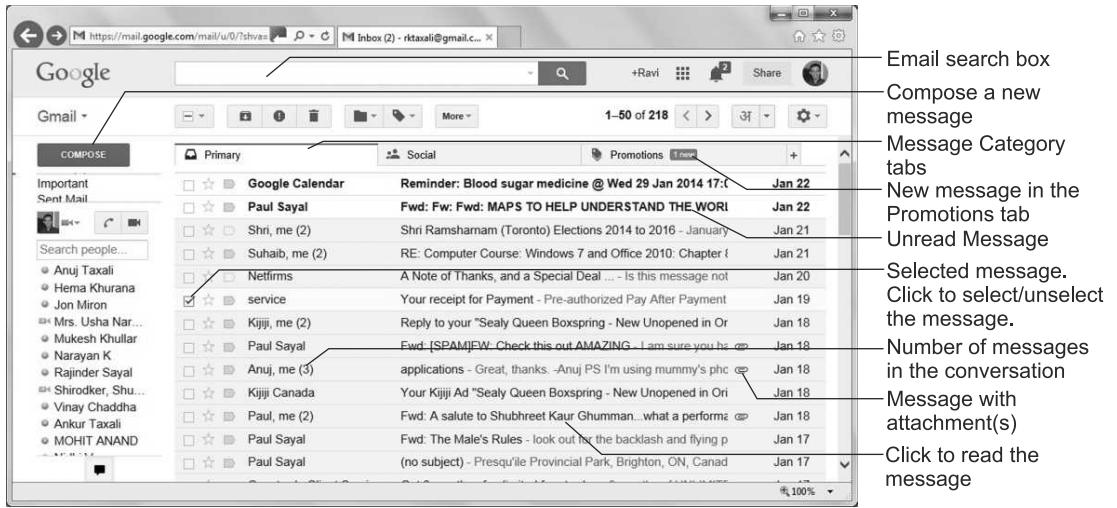


Fig. 9.28 Opening screen of Google Mail

9.14.1 Reading a Message

- Like a typical e-mail program, to read a message, click it in the message list. Gmail replaces the message list with the message, as shown in Fig. 9.29.

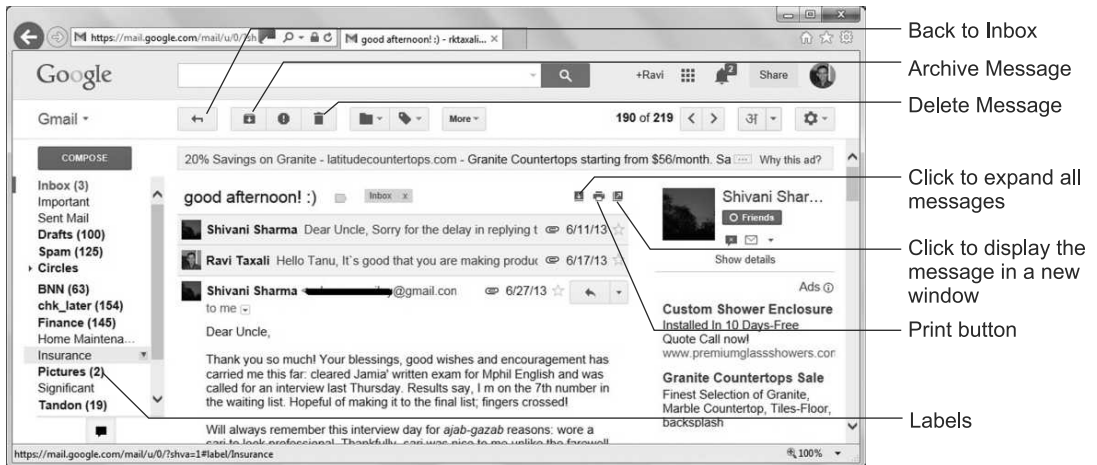


Fig. 9.29 Gmail displaying a message in conversation view

Google links outgoing and incoming messages as *conversations*. For example, in Fig. 9.29, three messages, one outgoing and two incoming are linked. In case of linked messages, Gmail displays the Expand all button to expand all messages, as illustrated in Fig. 9.29.

- To view the message in a new window, click the **In New Window** button, as illustrated in Fig. 9.29.

If the message contains any attachments, Gmail displays the file details and preview of the file(s), if applicable and links to view/download the file(s) to your computer. If the message contains embedded picture or video, usually Gmail is able to display or play these within the message window.

- To print the message, click the **Print** button located to the left of the **In New Window** button.
- After reading the message, if you want to go back to the Inbox, click the **Back to Inbox** button located in the Commands bar or click **Inbox** in the folders list in the Navigation pane.

9.14.2 Composing and Sending a New Message

- To create a new message, click the large **Compose** button located at the top of the Navigation pane, as shown in Fig 9.28. Gmail displays the New Message window superimposed on the Google Mail window to compose the message, as shown in Fig 9.30.

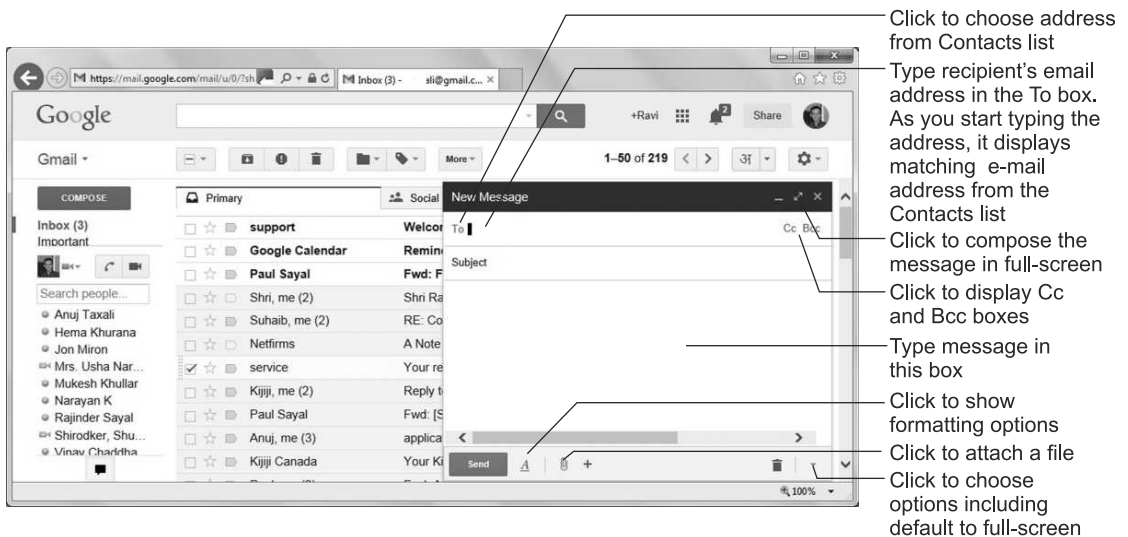



Fig. 9.30 A new e-mail message being composed in Google Mail

By default, the New Message window takes a small area of the Google Mail window. To quickly compose small messages, this window should be sufficient, however, if you like to switch to full-screen mode, click  located near the top-right corner of the New Message window. If you always want to work in the full-screen mode, click the **More Options** button located near the bottom-right corner and choose "Default to full-screen", as illustrated in Fig 9.30.

- Type the recipient's e-mail address in the To box. As you start typing e-mail address in the To box, Gmail suggests you e-mail addresses matching the entered characters and enables you to choose an e-mail address from the displayed list. You may also click the **To** link to pick addresses from your Gmail Contacts list.
- If you want to send the Carbon copy (Cc) or Blind carbon copy (Bcc) of the message to someone, click the **Cc** or **Bcc** link to display corresponding boxes.
- Type a suitable subject for the message in the *Subject* box. Of course, if you wish, you may send a message without subject.

- To attach a file, click the **Attach files** link and choose the desired file(s). You may attach additional files by clicking this link again. Gmail displays the attached file(s) and their type and size in the message window. It also displays a remove button against each attached file, which you may use to remove an attached file, if required.
- Type and format the message in the message box. Google does not display the formatting controls in the small New Message window; to display these controls, click the Formatting Options button, as illustrated in Fig 9.30. You may format selected text in bold or italic style or pick the required font or size for your message—just select the text and click the corresponding formatting control. To perform spelling checking on the message text, click the **More Options** button located near the bottom-right of the New Message window and then click **Check Spelling**.
- By default, Gmail sends formatted message which is good in most cases. However, if required, you may click choose **Plain Text** from **More Options** to send the message in *plain text*.
- To send the message, click the large **Send** button located at the bottom-left of the message window. If you would like to send the message later, close the New Message window and Google automatically saves the message in Drafts folder.
- After Gmail sends the message, it is moved to the *Sent Mail* folder.

9.14.3 Taking Actions on Messages

You may take several to keep your Inbox and Sent Items folders tidy. If the message is not important or you don't need it for reference in future, you may delete it.

Deleting a Message

- To delete a message that you are reading, click the **Delete** button (See Fig. 9.29.)
- If the Gmail window is displaying the list of messages in the selected folder, e.g., Inbox, click the checkbox to the left of the message to select the message (see Fig. 9.28.) You may select multiple messages. Gmail highlights the selected message(s). To delete the selected message(s), click the **Delete** button located above the message list. You can also access the delete command in the context menu that you get on right-clicking selected message(s).

Note Deleted messages are moved to "Trash". Google Mail automatically permanently deletes the message from Trash after 30 days.

Archive a Message If you feel that the message you have received may be helpful in future, but you do not want it to overfill the Inbox, you can archive it. When you archive the message, it is removed from Inbox but it is not deleted. Instead, it is assigned a special label All Mail and you can access it through All Mail label. Besides Inbox, you can archive a message from Sent Mail and Important folders.

Note In fact, Inbox, Sent Items, Drafts, Spam, Starred are not folders, but system labels.

What is a Label? To organize your messages into various categories, such as finance, personal, work, jokes, orders, etc., Gmail uses a technique call labels. Labels are like tags or categories that you can apply to a message. As a crude analogy, one can say that labels and folder are similar, however, labels are different from folders in many ways:

- ☐ You can apply more than one label to a message.

- ❑ You can quickly remove or add labels to message(s).
- ❑ You can ask Google Mail to display the list of messages that have applied a particular label. If a message has been applied multiple labels, that message appears with each label category it has been assigned to.

Figure 9.31 displays labels assigned to some messages. Notice that in Fig. 9.31 some messages have been applied multiple labels.

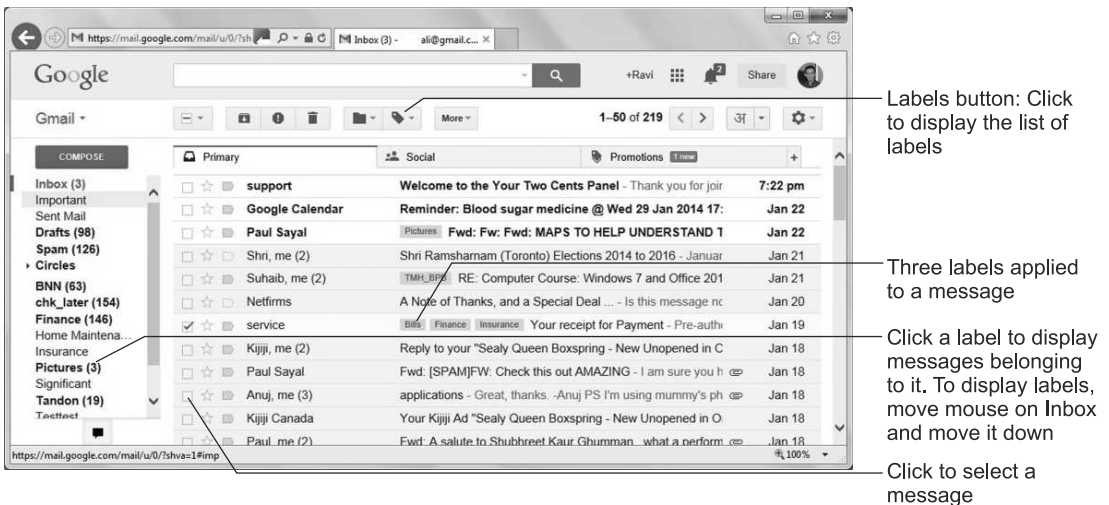


Fig. 9.31 Labels assigned to messages in Gmail

- To display messages applied with a particular label, click the corresponding label link in the labels list. To display labels, move mouse on Inbox in the Navigation bar and move down the mouse. Use the **More** link at the bottom of the labels list to display additional labels, if required.

Assigning a Label Assigning a label to a message is very simple:

- Select the message by clicking the check box located to the left of the message in the messages list, as illustrated in Fig. 9.31. You may select multiple messages to apply a label at once.
- Click the **Labels** button to display the list of labels in a drop-down list, as shown in Fig. 9.32. To apply a label, click the corresponding Label name in the drop-down list. You may choose multiple labels. Finally, click **Apply** to apply labels to the selected message(s).
- You can assign a special label called “Starred” by clicking the star in the message list, as illustrated in Fig. 9.32. You may use the **Select** button to select starred, unstarred, read, unread messages, etc. (see Fig. 9.32.)

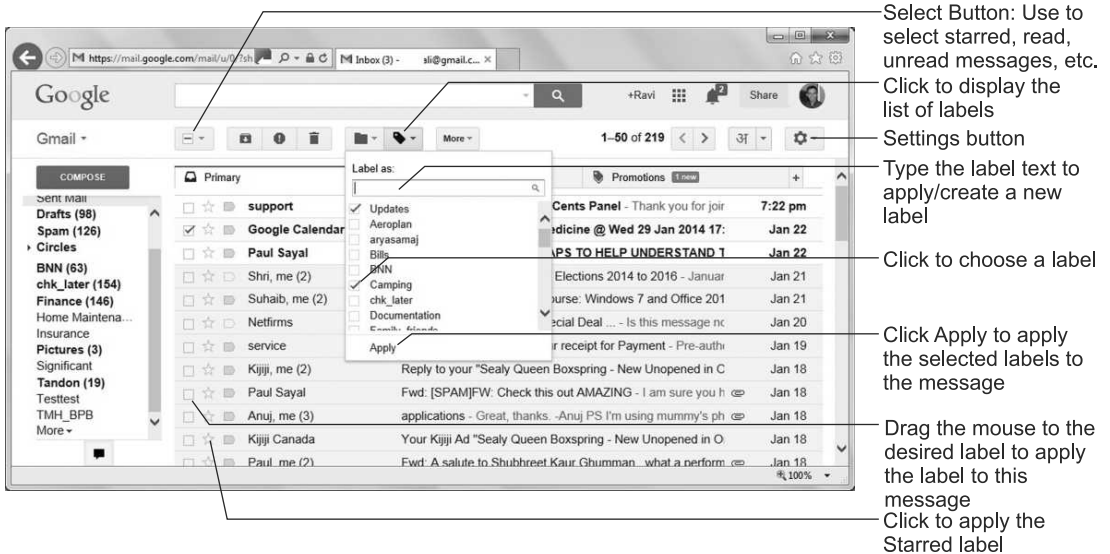


Fig. 9.32 Applying a label or star to a message

Creating a Label To create a new label and assign it to the selected message, follow these steps:

- Click the **Labels** button to display a menu and click the **Create new** command located near the bottom of the menu.
- Google Mail displays the New Label dialog box shown in Fig 9.33. Type the new label name in the first box.
- If you want to create the new label under an existing label, click the arrow in the **Nest label under** box and choose the desired parent label.
- Finally, click the **Create** button to create the label.

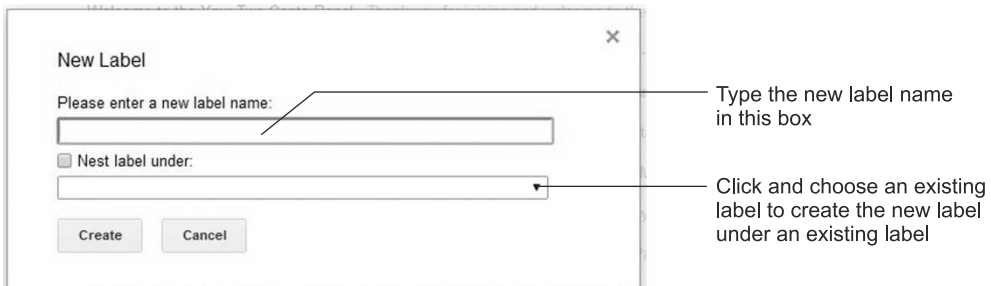


Fig 9.33 Creating a new label in the New Label dialog box

If you want to manage labels, e.g. delete a label or place it under another label, choose the **Manage labels** command from the Labels menu.

Contacts Google Mail automatically updates the contacts list when you send a message to a new e-mail address or receive a message from a new sender. Thus, you rarely need to manually add an e-mail address to your contacts list. As soon as you start typing an email address while composing a new message, Google Mail starts offering you suggestions.

- If you need to maintain the Contacts list, click the **Gmail** button located in the top left corner of the window below the Google logo and choose **Contacts**.

Spam Filter Google Mail's spam filter is very effective. Usually, most of the spam mail automatically bypasses Inbox and lands in the Spam box.

- However, if you feel that a message should have been treated as spam, you can click the **Report Spam** button, located to the left of the Delete button to move it to the Spam box and to report this to Google Mail. Messages moved to the Spam box are deleted after 30 days. However, you may manually empty the Spam box whenever you like.
- You should periodically review the Spam box, just in case a message has been marked as spam by mistake. If you find such message, select it and click the **Not Spam** button.

Mark a Message as Read/Unread All new messages that arrive in the Inbox are marked as unread and appear in bold letters in the message list for easy identification. After you have read the message, its status changes to read and message appears in normal letters in the Inbox message list. However, you don't have to read a message to change its status to read, you can also change its status to read without reading it. Follow these steps to do this:

- Select the message(s) in the message list by clicking the check box located at the beginning of the message.
- Click the **More** button to display the list of actions you can perform on the selected message(s).
- Click the **Mark as Read** action.

Follow similar steps to mark a read message as unread.

Searching Messages Google Mail includes a powerful and user-friendly search feature that can find your messages very quickly. (You know that Google is undisputed leader in the web search technology.) Searching for your messages is very simple:

- Type search text in the text box located at the top of the page, to the right of the Google logo and click the **Search** button. And, Google displays the search results on your screen.

Filtering Messages You may use Google Mail's filters to manage your incoming messages. You can create unlimited filters. A filter may be used to automatically delete, label, archive, forward or *star* a message based on the user-defined criteria. To create a filter based on a message you have received.

- Select the message, click the **More** button and choose **Filter Messages like these** from the menu.

Google Mail displays a box for entering criteria for the filter, shown in Fig. 9.34.

- The criteria box already contains sender's email address. You may add additional criteria, such as To, From, Has the words, etc.
- Click the **Create filter with this search** link and Gmail displays the next step where you choose what action you want to take on the messages matching the filter criteria, as shown in Fig. 9.35.



from:(news@bonusprint.com)

Filter ×

From

To

Subject

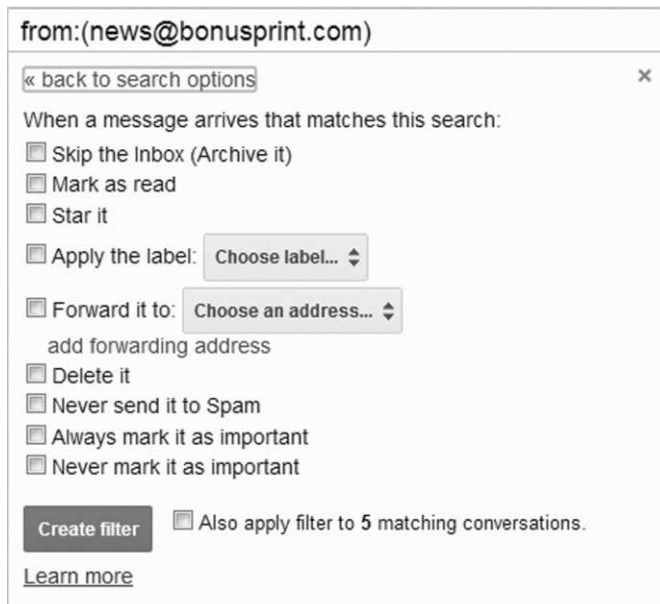
Has the words

Doesn't have

☐ Has attachment

Create filter with this search »

Fig. 9.34 Defining criteria for creating a filter



from:(news@bonusprint.com)

[« back to search options](#) ×

When a message arrives that matches this search:

☐ Skip the Inbox (Archive it)

☐ Mark as read

☐ Star it

☐ Apply the label:

☐ Forward it to:
add forwarding address

☐ Delete it

☐ Never send it to Spam

☐ Always mark it as important

☐ Never mark it as important

☐ Also apply filter to 5 matching conversations.

[Learn more](#)

Fig. 9.35 Defining actions on messages matching the filter criteria

- You may choose one or more actions. Gmail provides a number of useful actions, e.g., you can mark it as read, apply star or a label, forward it to a specified e-mail address, delete it, etc., Google Mail performs these actions in the order these are listed. Therefore, it is possible to forward the message and also delete it.

- If you would like to apply the filter to the currently matching conversations, check “**Also apply filter to ... conversations**”. Finally click the **Create Filter** button.

Changing Personal E-mail Settings Google Mail allows you to personalize various mail settings, such as signature, picture, vacation response, e-mail forwarding, downloading messages from other e-mail clients, language selection, etc.

- To view or update you e-mail settings, click the **Settings** button located above the messages list (see Fig. 9.32) and click the **Settings** command in the menu.
- Google Mail can operate in many Indian languages, including Hindi, Gujarati, Marathi and Tamil. If you want to use Google Mail in Hindi, choose Hindi as Gmail display language on the General Settings page.
- If you change any settings, click the **Save Changes** button located at the bottom of the page.

9.15 INSTANT MESSAGING (CHATTING)



Instant Messaging (IM), also known as chatting enables two or more users to communicate to each other in almost real time through typed text. The communication takes place between computers connected on a network, usually the Internet. Initially, all communication used to take place through typed text, i.e., text typed on one computer appears on the other, and vice versa. Later, Instant Messaging programs added other features, such as voice/video communication, file-sharing, e-mail and games. Some of the common Instant Messaging programs are MSN Messenger/Windows Live Messenger, Skype, Yahoo! Messenger, Google Talk, Jabber, ICQ, AIM (AOL Instant Messenger) and eBuddy. Usually, each of these Instant Messaging programs uses its own protocol, so both persons who want to communicate to each other using Instant Messaging need to use the same program. That is, if you are using Google Talk, other person must also use Google Talk.

9.15.1 Windows Live Messenger

Microsoft Windows Live Messenger, formally known as MSN Messenger was one of the most popular instant messaging program until April 2013, when Microsoft decided to retire it in favour of Skype. In 2006, Microsoft updated its communication protocol to enable Windows Live Messenger and Yahoo! Messenger to communicate with each other. Besides the basic communication through typed characters (chatting), users could make PC-to-PC voice and video calls, games and offline messaging.

9.15.2 Yahoo! Messenger

Yahoo! Messenger is one of the most popular Instant Messaging program. It has all the capabilities of a typical messaging program, such as instant text messaging, PC-to-PC voice and video communication and share files. Yahoo! Messenger can also make PC to regular phone communication, or receive calls from regular phones.

- To use Yahoo! Messenger, start this program like any other Windows program and login to your account using your Yahoo! ID and password. Figure 9.36 displays a Yahoo! Messenger window.
- Yahoo! Messenger in Fig 9.36 displays contacts and their online status. To add a new contact, click **Contacts** at the top of the window and choose **Add a Contact** from the menu. During the add contact process, Yahoo! Messenger sends an invitation to the new contact, who must accept your invitation before you can communicate with the contact.



Fig 9.36 *Yahoo! Messenger*

- To send an instant message (IM) to an online contact, click the contact in the contacts list and click the button to display a menu, as illustrated in Fig 9.36. Then click **Instant Message** in the menu and Yahoo! Messenger opens a Conversation window, as shown in Fig 9.37.

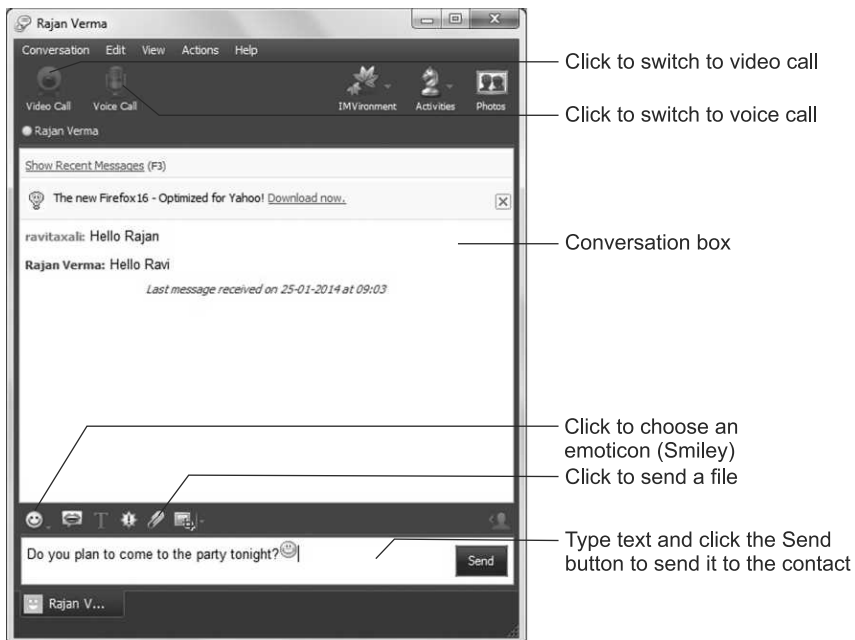



Fig 9.37 *Conversation in progress in Yahoo! Messenger*

- Sending an instant message is simple—just type the message and click the **Send** button. Yahoo! Messenger can also help you to easily send *emoticon* (smiley). Here are some of the emoticon you can send  in with Yahoo! Messenger. To insert an emoticon, click the **Emoticon** button and choose the required emoticon, as illustrated in Fig 9.37.
- If you want to send a file, click **Attach file** icon, as illustrated in Fig 9.37.

The text you send appears in the conversation box in the Conversation window on your computer as well as on your contact's computer. In the same way, the response typed by your contact appears in your Conversation window. The Conversation window also displays status of activity, e.g. "... is typing".

- If your contact is not online, you may send an offline instant message or send an e-mail by choosing the appropriate command from the menu.

Depending on the hardware installed on your computer and the Yahoo! Messenger you are using, you may be able to make a video or voice call. Yahoo! Messenger has several other features, such as sending e-mails, share photos and play games.

9.15.3 Skype

The Skype service allows Skype users to communicate using instant messaging (IM) as well as free audio and video call over the Internet. For a charge, a Skype users can make calls to a landline or mobile phone number or send SMS to a phone.

- To use Skype, you need to download and install the Skype program from **www.skype.com**.
- Next, you need create an account which you can do at from **www.skype.com**. During the account creation process, you provide some basic details about you and choose a Skype name (username) and password. If you have a Microsoft or Facebook account you can use these accounts to login to Skype, so you need not create a new Skype account.
- After you have created the Skype account, start the Skype program on your computer and sign in using your Skype username and password. You may also sign-in using your Microsoft or Facebook account and you are ready to use Skype. If you have created a new account, Skype prompts you to setup a profile picture and test microphone, speaker and webcam on the computer.

Figure 9.38 displays Skype program in use. The left side of the window displays the list of contacts. On clicking a contact, Skype displays the online status. Depending on the hardware installed on your computer and the online status of the contact, it enables or disables Video Call and/or Voice Call buttons.

- To send an instant message (IM), type the text in the textbox at the bottom of the window (see Fig. 9.38) and press **Enter**. Similarly, to make a voice or video call, click the corresponding button.

When you send a message or click a Voice or Video Call button, Skype displays the call request alert on your contact's computer. If your contact accepts your request, the communication is established.

To use the free IM, voice or video call, you need to add the contact to your contacts list. You can search the Skype's users to find a contact and send a contact request with these steps:

- Click **Add a Contact** icon at the top of the left pane and type Name, Skype name or email address in the search box. Skype provides the list of Skype users matching the entered search text.
- To send a contact request, click to select the Skype user and click **Add to Contacts** at the top-right of the window, as illustrated in Fig. 9.39.
- Skype sends the contact request to the Skype user. When the user accepts your request, you will be able to communicate with that user.

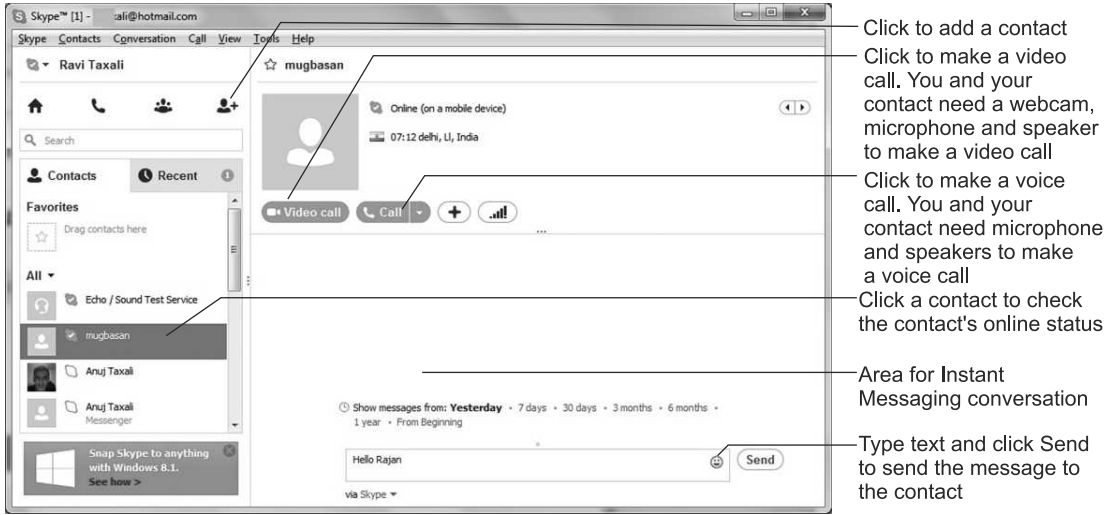


Fig. 9.38 Instant messaging in Skype

To use the paid features, e.g., to make a phone call to a landline or mobile phone or to send an SMS message to a phone, you need to buy credit or pay monthly subscription.



Fig. 9.39 Sending a contact request in Skype

9.15.4 Google Talk

Google Talk, Google's Instant Messaging program, provides instant messaging as well as PC-to-PC communication capabilities. You can use Google Talk in several different ways, e.g., through the Google Talk application, chat capability in Gmail or Google Talk Gadget. Though if you download and install

Google Talk, it gives you the most features, most people use the Talk capabilities available in Gmail through the Google Talk plugin.

- As shown in Fig. 9.40, Google Talk displays the list of contacts and their online status and availability in the left bar.
- When you hover the mouse on a contact name, Google Talk displays the online status and availability of a contact and the actions you can take in a side window. Some of the actions, e.g., video call or audio call depends on the hardware installed in your and your contact's computer.

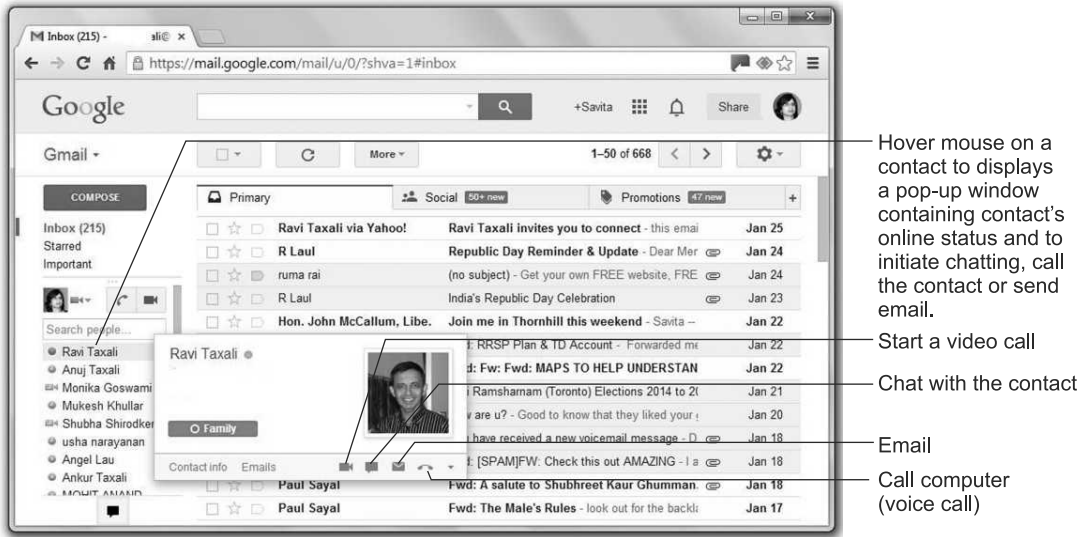


Fig. 9.40 Instant Messaging (chatting) within Google Mail

- If a contact is not online, Google disallows some of the actions, e.g., voice call. If the contact is online click the desired action.
- When you initiate chat, Google Talk opens a small chat window overlapping the Gmail window. If you prefer, you can expand the window.
- Google Talk displays icons for other available actions, such as voice or video call in the chat window. Thus, you may switch from chat to voice/video call if required from within the chat window. Of course, both computers must be equipped with the required hardware, such as microphone, speakers, webcam, etc. to use voice/video calling features.

Note Google has introduced Hangouts which is similar to Google Talk with rich features. Google Talk may be replaced with Hangouts in future.

9.16 SOCIAL NETWORKING WEBSITES



Social Networking websites can help you to create an online profile about yourself and to communicate with your friends. These sites also let you upload photos/videos, create groups and events. Just adding stuff about yourself is not the complete fun, so you request other users on the same social networking

site to become your *friends*. After a user agrees to become your friend, you can view his/her profile, postings, friends, etc., and similarly he/she can view your profile, postings and friends. So, if you prefer, you can request a friend of your friend to become your friend. These websites also allow you to search existing users to find your old friends. After you find a user who you think is your old friend/relative, you can send a request to include him/her as your friend on your profile. Thus, these sites can help you to improve your social networking. Other services offered by most social service networking sites include e-mail, chat/voice chat, blogging and discussion groups. Social Networking sites are particularly popular with teens and young people.

There are several social networking websites; however the most popular ones are Facebook (www.facebook.com), Twitter (www.twitter.com), LinkedIn (www.linkedin.com), Google+, Orkut and MySpace Figure 9.41 displays a webpage from Facebook. While specific details vary from one site to another, the basic operation of these sites is quite similar. All these sites allow you to create a free account, update your profile, write notes (blogs), send e-mail to your friends, upload pictures, etc.

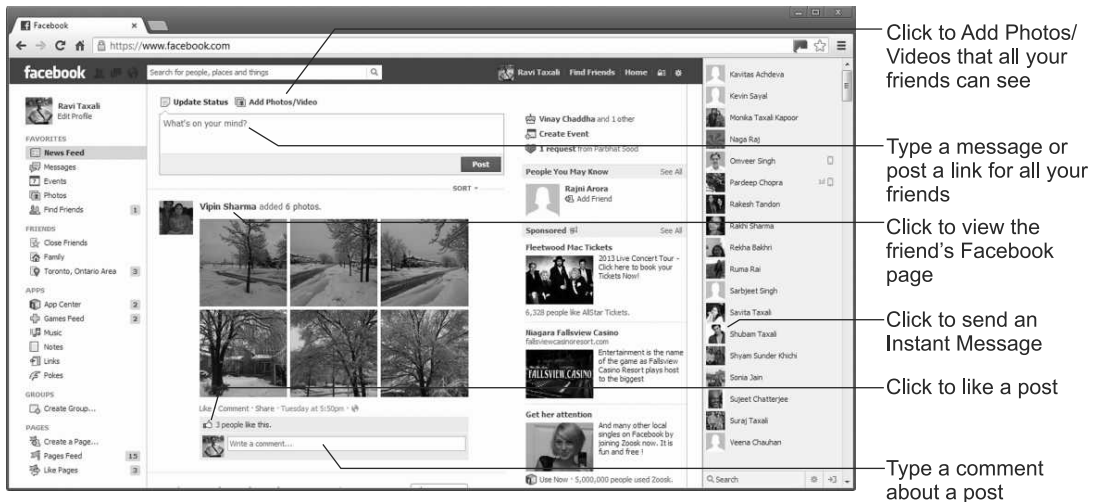


Fig. 9.41 Social Networking through Facebook

- To use Facebook, you need have a Facebook account. Visit **www.facebook.com** to create an account; you just need to provide an email address and a few details about you. When Facebook creates an account, it gives you an option to find friends on Facebook through the contacts list on your existing e-mail accounts and send friend request to all/selected contacts. Next, you create a profile about you and add a profile picture. Facebook can even use a webcam to take your picture.
- If you already have a Facebook account, use **www.facebook.com** to log in to your account. If you check the *Keep me logged in* checkbox during the log-in process, Facebook will directly take to your account when you visit **www.facebook.com** time.
- After you have logged-in to your account, you can post stuff about you—just type anything in the “What’s on your mind” textbox at the top of the page (see Fig. 9.41) and press **Enter**.
- To upload photos or videos, use the **Add Photos/Video** link located above the “What’s on your mind” textbox. You can either upload individual photos or create an album. Then you may write some details about the photos and post these as private, public or friends.

- You can also comment about posts from your friends as well as view your friends' profiles and posts.

If you add too many users as your friends and start viewing activities of all those people, Social Networking can become a time-consuming affair and addictive. So, you should exercise caution in adding people as your friends. Also, do not post anything too personal on these websites, as anything you post becomes known to everyone in no time.

9.17 MICROSOFT FAMILY SAFETY



The Internet has all kinds of information, some of which may not be suitable for some users, particularly young children in home. Most computers in home are connected to the Internet, usually 24 hours a day. It is the moral responsibility of parents to ensure that children don't access information not suitable for them. To help parents achieve this, Microsoft developed the Family Safety (formally Windows Live Family Safety) program. Family Safety, a free program, is a part of Windows Essentials which helps parents control and monitor the online and computer activities of children. If this program is not installed on your computer, you can download it from Microsoft's download site. (Refer to Section 2.37 for more information about Windows Essential.) Before you can monitor activity of a child, you need to setup Family Safety on your computer. Basically, Family Safety has three components:

1. **Family Safety Filter** A software you install on each computer your children use at home.
 2. **Family Safety Website** This website maintained by Microsoft monitors and records activities of children on each computer where you have installed the Family Safety filter.
 3. **Windows Parental Control** Windows feature, which is turned on when you enable Family Safety, enables you to customize settings to monitor and control children's activities on the computer.
- Start the Family Safety program like any other Windows program. You may search for this program through the Programs and Files search box on the Start menu. The Family Safety program starts and prompts you to log-in to with your Windows Live ID as shown in Fig. 9.42.



Fig. 9.42 Log-in screen for Windows Live Family Safety

- You can log-in to Windows Live Family Safety with your Hotmail/Outlook.com account. This should be the primary parent's account and will be used to setup, monitor and control Family Safety.

After successful sign-in, Windows displays a window that shows Windows user accounts set-up on the computer and a link to create additional user accounts, as shown in Fig. 9.43.

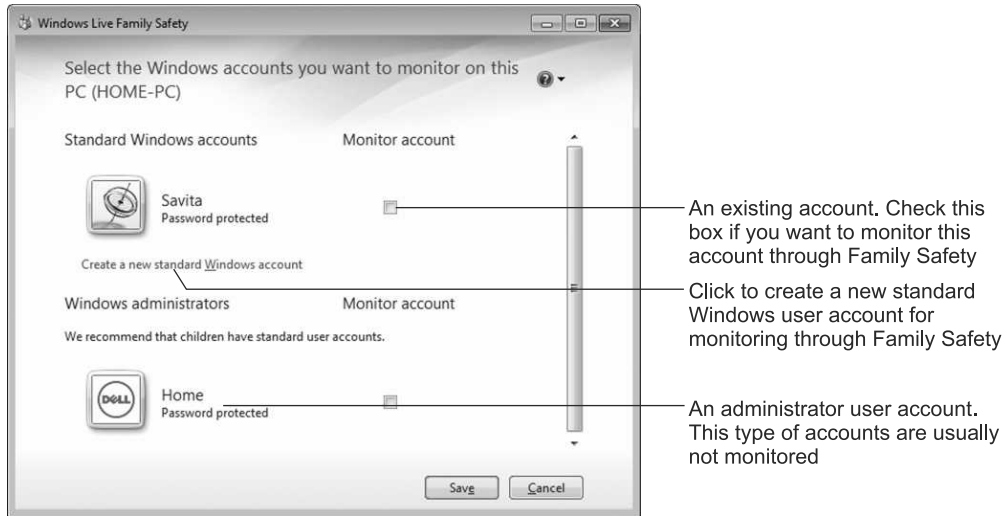


Fig. 9.43 Family Safety displaying current user accounts set-up on the computer

- If you want to monitor an existing account, click the **Monitor Account** checkbox. To create a new standard account for monitoring, click the **Create a new standard Windows account** link, and Windows displays a dialog box to create the new account, as shown in Fig. 9.44.



Fig. 9.44 Creating a new standard Windows user account

- Type the account name in the Name textbox and click **Create Account** to create the new account. You may assign any name to the account, e.g., name of your child or call it *ChildAccount*. If you want to monitor activities of two children, you should preferably create a separate account for each child. Family safety window displays the new account name in the window. Click the **Next** button.

Family Safety creates a new windows user account and marks it as ChildAccount, the default setting for accounts created through Family Safety, as shown in Fig. 9.45.

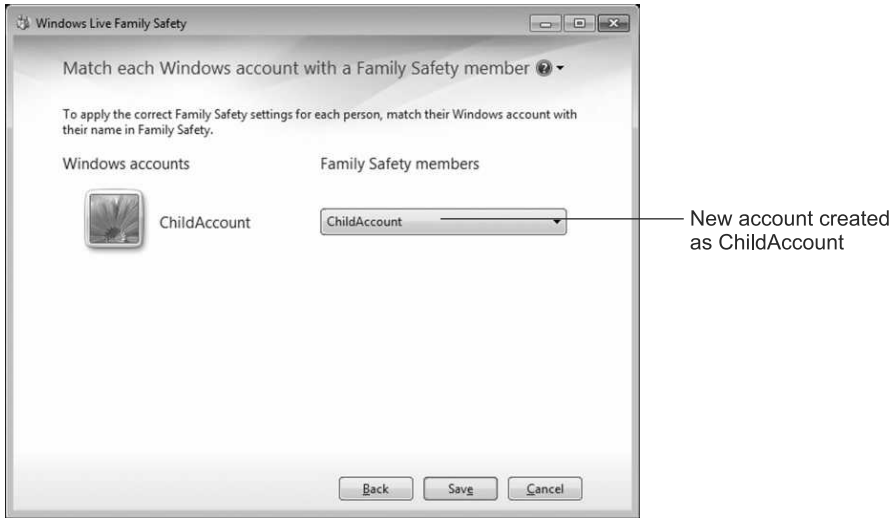


Fig. 9.45 A new account created by Family Safety

- Click **Save** to save the new account.

Family Safety starts setting up the new Windows user account. It displays a progress bar and when the account set-up is complete, it displays the Family Safety window with the newly setup account under the Monitored Windows Accounts list, as shown in Fig. 9.46.

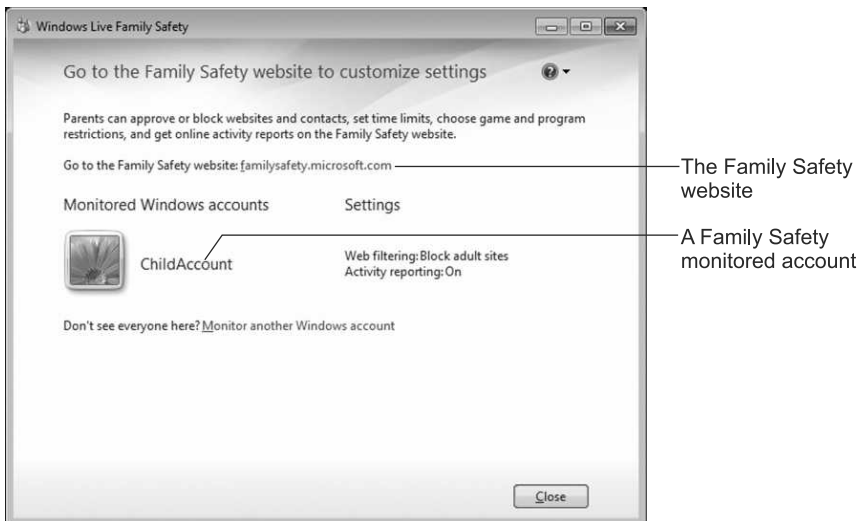


Fig. 9.46 Family Safety displaying monitored accounts

- Click the **Close** button to Family Safety window.

9.17.1 Monitoring an Account

After you have set-up an account for monitoring, the Family Safety website (**familysafety.microsoft.com**), whose address is displayed in the Family Safety window (see Fig. 9.46) continuously monitors and records the online and computer activity of the account. If the account holder, e.g. your child tries to visit an inappropriate website, Family Safety displays a suitable message and does not allow visiting the website. At that point, the child can request for permission to the parent and the parent may allow or disallow the request.

- To view the activities of a child (monitored) account, either visit the **familysafety.microsoft.com** website directly, or open the Family Safety program on your computer and click the **familysafety.microsoft.com** link displayed at the bottom of the Family Safety window.

Family Safety opens the web browser, if required and prompts you to sign-in, as displayed in Fig. 9.47.

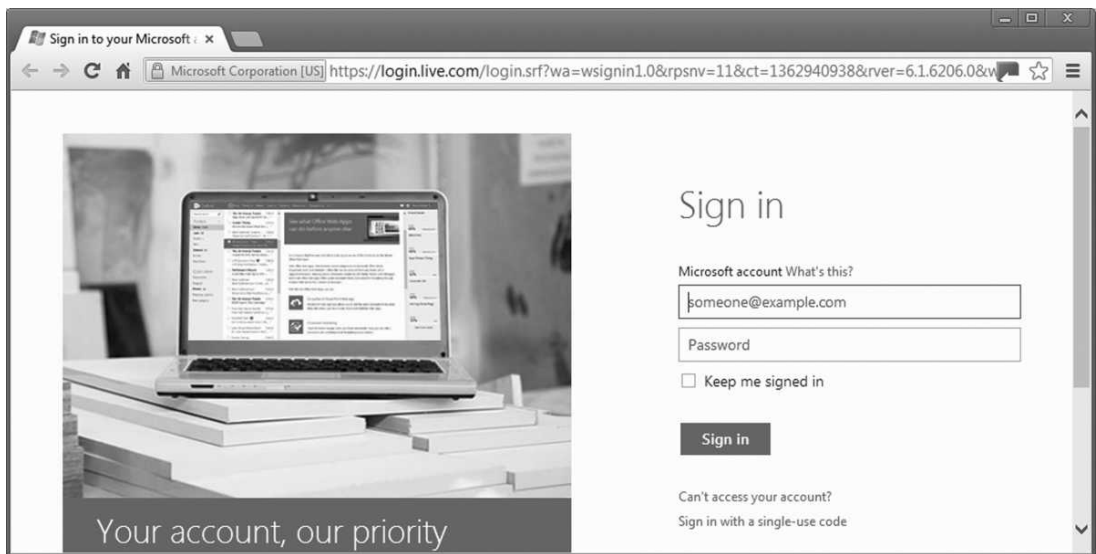


Fig. 9.47 Sign-in with you Microsoft account to monitor activities through Family Safety

- Sign-in with the username and password you used when you set up Family Safety. After successful sign-in, the Family Safety website displays the list of accounts being monitored under the username. Click an account and family safety displays overview of the account, as displayed in Fig. 9.48.
- If there are any pending requests, click the corresponding link to view the request and take an action, e.g., allow or block the request.
- To view the activity of a monitored account, click the **Activity reporting** link. Figure 9.49 displays the summary activity report for a sample account. Notice that it list websites visited, number of pages in each websites, blocked websites as well as applications used on the computer. To view detailed web or PC activity, click the corresponding tab, as illustrated in Fig. 9.49.

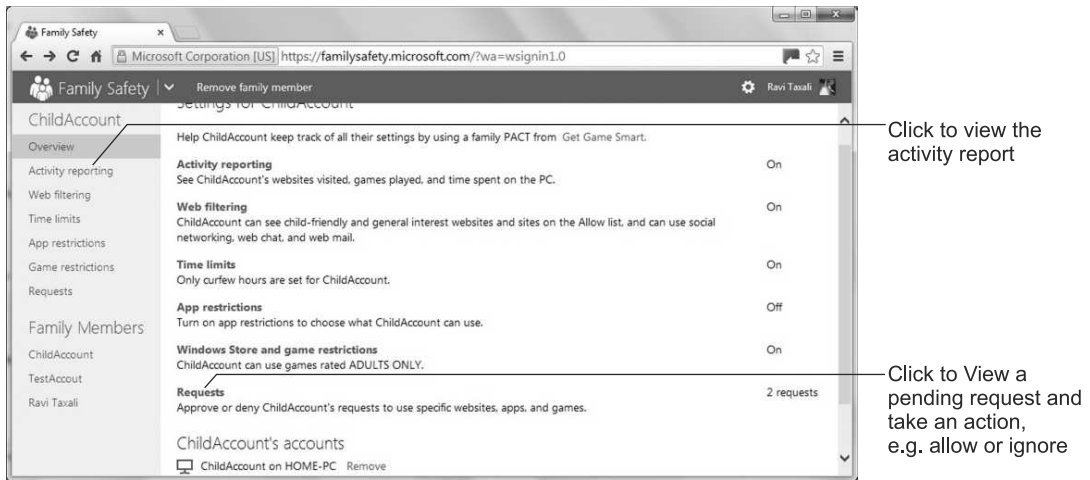


Fig. 9.48 The Family Safety displaying the Family Safety summary of a monitored account

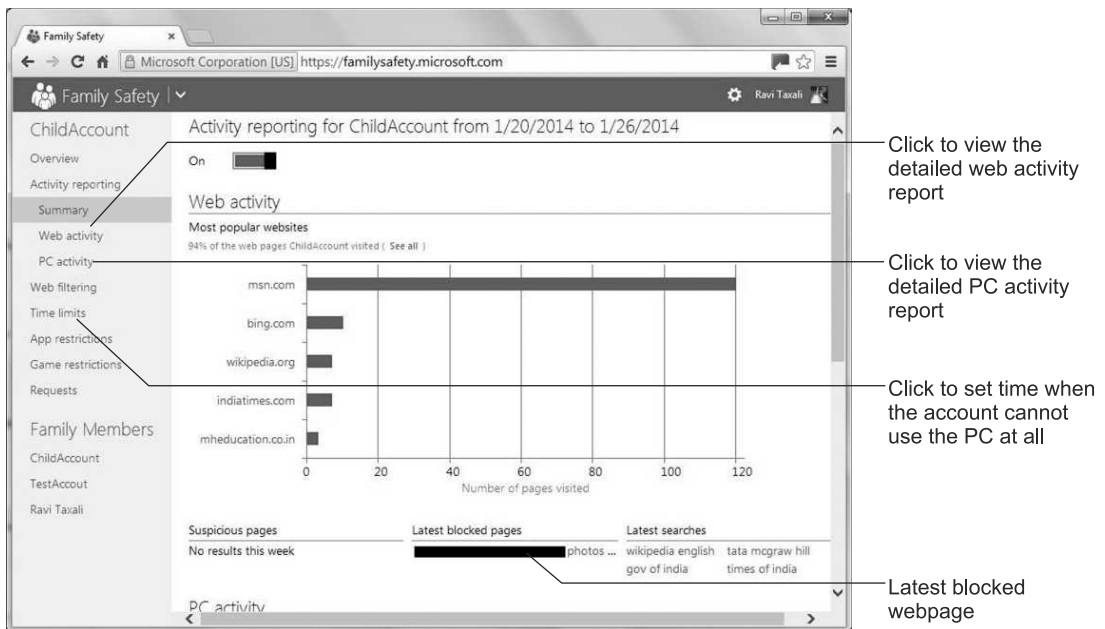


Fig. 9.49 The Family Safety displaying the summary activity report

9.17.2 Customizing the Monitored Account

You can customize the monitored account by changing the web filtering/lists, setting time limits and defining Game and App restrictions. You can do this by clicking the corresponding link while monitoring the activity of an account (see Fig. 9.49).

The default web filtering setting blocks adult sites, but you can make it more restrictive or even specify the websites the account holder can visit. Similarly, on the Web Filtering page, you may disable file downloads.

Time Limits is a useful feature which does not allow the use of the PC during the specified hours at all. This is particularly helpful if you want your children in bed during night time rather than browsing the web. To set time limits:

- Click the **Time Limits** link (see Fig. 9.49) and then click Curfew, and Family Safety displays a grid representing 24 hours for the each day of the week.
- Click the **On/Off** button at the left above the grid to turn on the Curfew option. Next click the time when you do not want to allow the use of the PC. Family Safety marks the blocked period in blue color, as illustrated in Fig. 9.50.

Similarly, you may use the App Restrictions and Game Restriction links to block specific apps and games, respectively.

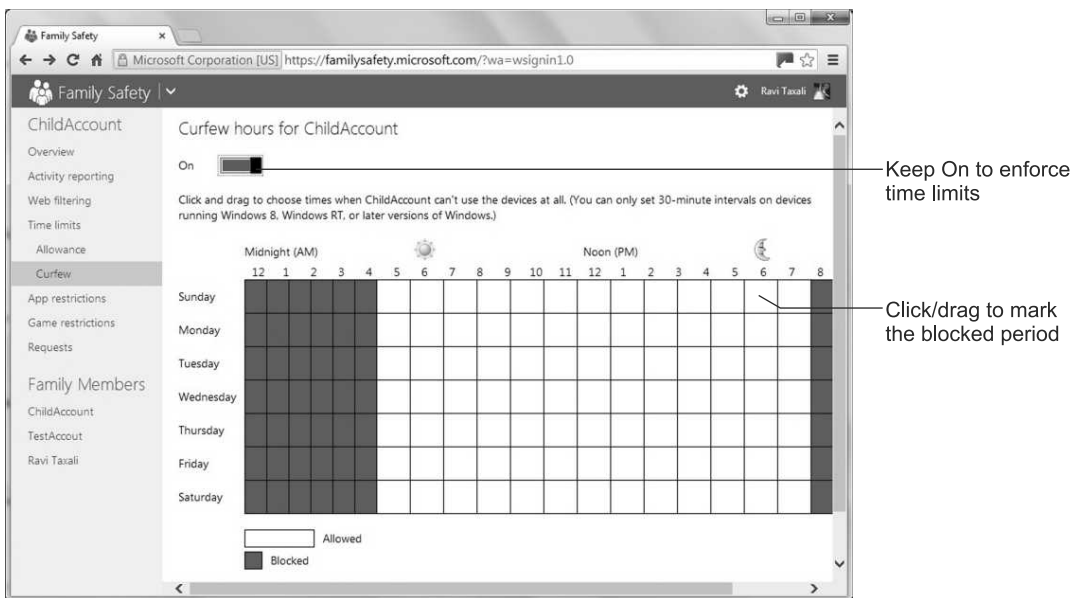


Fig. 9.50 Setting time limits for the PC use

9.18 GOOGLE DRIVE



Google Drive is a free web-based service offered by Google to create, edit and share word-processor, spreadsheet, presentation and drawing documents. The documents are created and saved on Google's web servers. Besides hosting documents, Google Drive can also synchronize documents on your PC with those on Google Drive. Besides creating documents from scratch, you can also import/upload existing documents from your PC.

To access your Google documents or create a new one, visit <http://drive.google.com>. If you are not already logged-in to your Google Account, Google Drive presents you the log-in page. You may also

access Google Drive by clicking the Apps icon on any Google page including the Google home page (see Fig. 9.51) After successful log-in, it displays a list of all documents you own or have access to. Figure 9.51 displays a Google Drive page for a sample account.

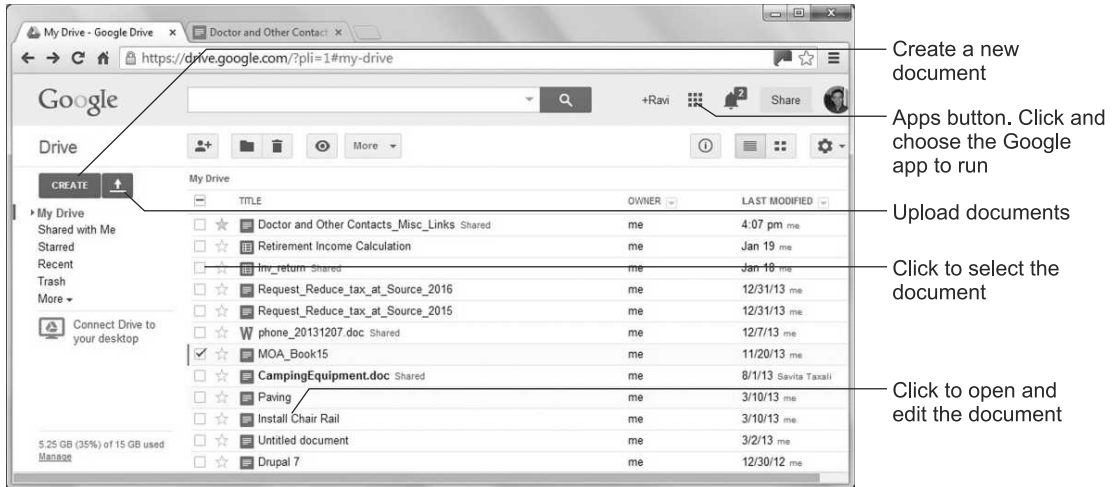


Fig. 9.51 Google Drive

The Create button is used to create a new document or folder. Google Drive lets you manage your documents by moving these to folders of your choice. Editing a document in Google Drive is very simple and does not require any special learning. Another good feature of Google Drive is *sharing* of a document, which helps multiple users to edit a document. If you like to share your document with everyone, Google Drive lets you publish it on the Internet via Google+, Facebook, Twitter or Gmail.

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