Approved by the Curriculum Development Centre (CDC / Government of Nepal)
Sanothimi, Bhaktapur, Nepal.

Computer Zone

Book - 4

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Guinness Publication Pvt. Ltd.
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This book belongs to

Name : _____

Class : _____ *Section :* _____ *Roll No. :* _____

School : _____

Contact no: _____

Published By

Guinness Publication Pvt. Ltd.

Author
Hari Prasad Sapkota

First Edition : 2014 (2071 B.S)
Re-Print : 2017 (2074 B.S)
Revised Edition : 2018 (2075 B.S)

Printed in Nepal

Illustrated and Graphics by

Preface

This is the age of computers. Computer is undergoing rapid change, and new and improved technological advances appear almost daily. Computers have invaded all walks of life to such an extent that computer literacy has become the order of the day. Computer science is now an essential addition to the school curriculum at all levels.

Computer Zone is a series of ten books on Computer Science for school level, designed for the new generation of students who need to acquire knowledge on the theory, application and programming aspects of computing. Logical and scientific in its approach, the series covers the history of computer, its accessories, applications and programming in a step-by-step and graded manner. It has been prepared to focus on creativity and encourage young children to explore and experiment with learning opportunities.

This book is the four in the series and is recommended for use in class 4. The chapters are supplemented with lucid illustrations, practise exercise, brief summaries and a variety of theory and lab exercises, that ensure mastery over the concepts learnt.

A lot of research and meticulous attention to detail have gone into the making of this book. However, there is always scope for improvement. Constructive criticism and suggestions which could be incorporated in the future editions of this book, are welcome in my mailing address hari99_sapkota@yahoo.com.

I earnestly hope that the students would find the journey through this series an enjoyable experience and gain a sound working knowledge on the basic aspects of computing that lay the foundation for good and systematic programming.

-Author

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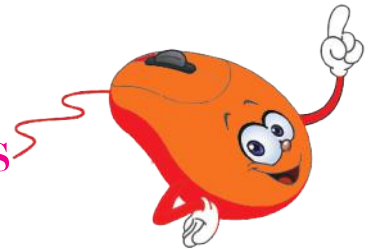


Chapter 1

Computers Knowledge

Learning Objectives

- Define computer and explain how computers compute.
- Explain the special features of a computer.
- Explain the application areas of a computer.
- Identify the various tips for safe computing.

An Overview

Computers have become a part of everyday life. It plays an essential role in how individuals work, live and learn. It touches the every aspect of our life making it easier and comfortable. These days computers are the tools for not only engineers and scientists but also they are being used by millions of people around the world. Computer has become very important nowadays because it is very much accurate, fast and can accomplish many tasks easily.

Define Computer

The word computer is derived from the Latin word "Computare" which means "to calculate". A computer is an electronic machine which accepts data as input and processes it to provide information as output. It has a large memory to store data and information. It carries out calculations and other processes by following a set of instructions, called the program.

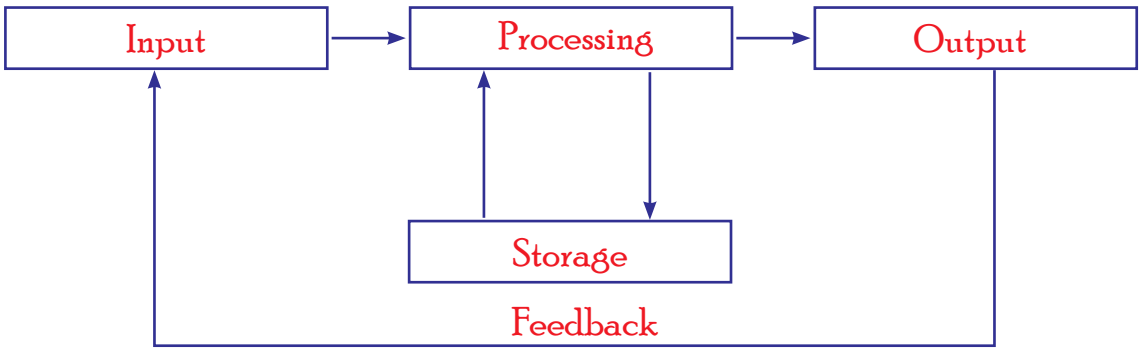
expanding your horizons

Laptop computers, also known as notebooks, are portable computers that you can take with you and use in different environments. They include a screen, keyboard, and a trackpad or trackball, which serves as the mouse. Portable computers run off AC power and also have the ability to run.

In June 2007 Asus announced the Eee PC 701 to be released in October, a small lightweight x86 Celeron-M ULV 353 powered laptop with 4 GB SDHC disk and a 7" inch screen.

How do Computers Compute?

A computer is a machine that works according to commands or instructions that we give. A set of instruction is called a program. A set of one or more programs is called software. A computer performs four basic operations. They are:



Input

The data and instructions entered into the computer is called input. Input is supplied to the computer with the use of a keyboard, a mouse or other input devices.

Processing

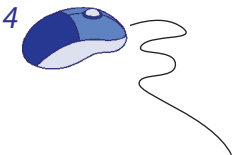
Processing is the conversion of input into output. Processing is done inside the computer in the Central Processing Unit (CPU).

Storage

Storage refers to the saving of information for later use. Storage is done in the memory of a computer. There are many storage devices such as pen drives, hard disks, optical disk, etc.

Output

Output is the result produced by a computer. Output may be viewed on a monitor screen, heard through speakers, printed through printers on paper or stored in the memory for later use.



Special Features of a Computer

We are living in the age of electronic revolution where computers are integral part of our life. It is indeed, difficult to imagine our daily life without their use in one way or other. Practically, computers have entered into each and every walk of life due to the following special features of computers:

Speed

A computer is a very fast device. It can solve numerous problems within seconds. It can process millions of instructions per second. As the power of computer increases, the speed also increases.

Accuracy

Computer is a very accurate machine. It never makes mistakes in calculations. If input value and set of instructions are correct, the result produced will be correct. If the input is incorrect the output is also incorrect. This is known as GIGO (Garbage In Garbage Out).

Large Memory

Computer has a large memory. It can store a large amount of data in its memory. It is easy get the information from them in seconds.They can store large amount of data and information in the secondary memory.

Diligence

A computer can work for a long time. It never feels bored and tired, unlike human beings. It can work for long hours continuously. It can also do the same work repeatedly.

Versatility

Computers are versatile machines, which can handle a large variety of jobs. They are used in all areas of modern life-in science, technology, business, industry, leisure and entertainment.

Reliability

Computer provide very high speed accompanied by an equality high level for reliability. Thus computers never make mistakes of their own.

No intelligence

A computer is a magical device. It can only perform tasks that a human being can. The difference is that it performs these tasks with unthinkable speed and accuracy. It posses no intelligence of its own. Its I.Q is zero at least till today. It can only perform what is programmed to do. Hence, only the user can determine what tasks a computer will perform. Computers have no sense of meaning, cannot perceive and are only able to make simple robotic decision about the data they receive.

Brainstorming task

Answer the following questions.

a. What do you understand by "Computare"?

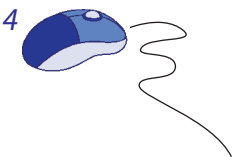
b. What is a program?

c. Why is laptop computer also called notebook?

d. Why is computer called diligent machine?

e. List any three special features of a computer?

f. Draw a block diagram of a computer system.



Application areas of a Computer

Computers are very productive and efficient. It has great impact on every aspect of mankind and plays an important role in our society. Due to the computer technology the world become like a global village, people can share each and every information with in a second with a very low cost. In present the application area of a computer is countless. In each and every field computers are used to do various types of works. Some of the application areas of computer are:

Computers in Schools

Computer is used by teachers for making lesson plans, for teaching different topics related to the subject using CDs and for making report cards. It is also used for maintaining records of students and also for preparing results. Students use computers for making projects and learning different topics of a subject.

Computers in Offices

Computers are used in offices for storing data. It is easier to maintain records in a computer. Important information can be communicated via computers. Computers are also used to make various presentations and reports.

Facts Corner

Internet-enabled computing allows you to receive orders from customers, place orders with suppliers, research businesses, explore business ideas, communicate with government agencies and even manage your business' banking.

Computers in Medicine

Computers are widely used in the field of medicine. Computerized equipments are used for medical tests and surgeries in hospitals. Furthermore, computers are used greatly in managing patients, doctors, wards and medicine records, as well as deal with making appointments, scheduling surgeries and other likes.

Computers in Industries

Computers are widely used in small and big industries. Computers are used to monitor almost all the operations in most of the industries. The use of computer, makes the task of finding defects in the jobs/product very simple. The quality of product of an industry can be ensured only through computerised processes of manufacturing.

Computers in Animation

Computer animation is the art of creating moving images by the use of computers. In fact, it is the illusion of movement which is created by displaying a series of pictures quickly. To create the illusion of movement, an image is displayed on the screen and then quickly replaced by a new image that is similar to the previous image but shifted slightly. Computer which you see are possible only through animation.

Computers in Law and Order

Computers are used by police and investigation departments to keep a tab on criminals and convicts on the run. Minute details of speech intonation, physical characteristics, criminal habits and finger prints can be matched for accurate detection through computers. Lawyers can store volumes of cases and judicial proceedings in the computer.

Computers in Airline Reservation

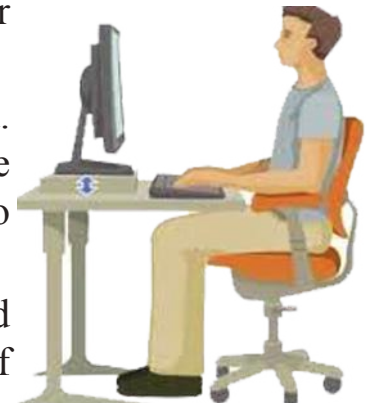
In an airline booking system, most airlines have booking offices all over the world. The computer stores details of all setting flights and updating information all the time. In this way, enquiries and bookings for different flights can be made from different booking offices all over the world efficiently.

Computers in Entertainment

There are many ways in which computers are used in entertainment. With the advent of the internet, computers have become the means for entertainment such as watching shows, movies and videos. Computers are also used to play video games and also used to play music. Computers are also used for creating special effects in a film combined with real scenes and characters.

Tips for Safe Computing

Use a Correct Posture



Make sure you sit up straight in front of your keyboard and screen.

Avoid sitting with your feet or legs crossed. Your feet should be flat on the ground and there should be enough space under the desk/table to move your legs freely.

Always remember that your lower arms and thighs should be parallel to the ground. If possible make ajustments to your chair.

Using the Keyboard

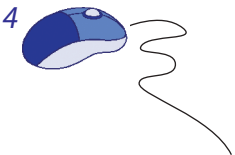
Do make sure that the keyboard is titled on its back legs. It is very important that your wrists and fingers should line up directly with your lower arms and not be bent as you type.

Remember not to hammer at the keyboard when typing and do not overstretch your fingers.

Using the Mouse

Make sure that you always keep your mouse within easy reach. Wrists should not be bent or strained. Heal of hand supported by an appropriate mouse mat is often helpful.

Flex your hands and fingers to prevent cramps and aches at regular intervals.



Tricky Terms

Computer	:	An electronic machine that converts data into information using a program.
Input	;	The data and instructions entered into the computer.
Processing	:	The conversion of input into output.
Animation	:	The art of creating moving images by the use of computers.
GIGO	:	If the input is incorrect the output is also incorrect.

Let Us Revise

- Computers are used in banking, most businesses, schools and hospitals to name a few because of their accuracy and ease of use.
- A computer is an electronic machine which accepts data as input and processes it to provide information as output.
- The data and instructions entered into the computer is called input.
- Processing is the conversion of input into output.
- Storage refers to the saving of information for later use.
- Output is the result produced by a computer.
- Computer is a very accurate machine.
- Computers are versatile machines, which can handle a large variety of jobs.
- Computer animation is the art of creating moving images by the use of computers.

Chapter Review

1. Fill in the blanks. Choose the answer from the clue box.

Clue Box

Speed, computare, output, Animation, Processing

a. The word computer is taken from a Latin word _____.

b. _____ is the conversion of input into output.

c. The result of your data that you get after processing is called _____.

d Computer works at a very high_____.

e. _____ is the art of creating moving images by the use of computers.

2. Match each term with the statement that best describes it.

GIGO	An electronic machine that converts data into information using a program.
Processing	The data and instructions entered into the computer.
Animation	The conversion of input into output.
Input	The art of creating moving images by the use of computers.
Computer	If the input is incorrect the output is also incorrect.

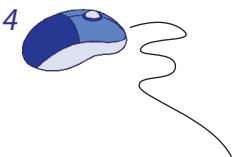
3. Say whether these sentences are True or False.

a. Computer carries out calculations and other processes by following a set of instructions, called the progam.

b. A set of one or more programs is called hardware.

c. Processing is done inside the computer in the storage unit.

d. Computers are versatile machines, which can handle a large variety of jobs.



4. Answer the following questions.

a. What is a computer?

b. What is a program?

c. What is software?

d. Define the terms:

i. Input ii. Processing iii. Output

e. What are the special features of a computer?

f. What do you understand by the term 'GIGO'?

g. Why is computer called a versatile machine?

h. Why are computers used in banks?

i. How do computers help in medicine?

j. What is computer animation?

k. How are computers useful in airline ticket booking counter?

5. Write the full form of the following.

GIGO CPU PC CD

Extrapolative Exercise

a. Make a chart of things which can be done:

i. Only by human beings.

ii. Only by computers.

b. Collect two pictures of any animated cartoon and paste them in your scrap book.

c. Make a chart to show various places where computers are used which is not mentioned in the chapter.

d. Visit your school's office and make a list for what purpose computers are used.

Chapter 2

Computer 'Inputs'

Learning Objectives

- Define input device and explain the functions of input devices.
- Explain the different types of keys found in a computer keyboard.
- Define pointing devices and explain their uses.
- Define video input device.

An Overview

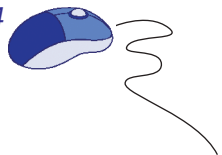
Input device is a device used to enter data and instructions into the computer. There are many different input devices, the most common input device is keyboard and a mouse.

The functions of input unit are:

a. accept instructions and data

b. convert these data and instructions to the form acceptable to the computer.

c. supply the data and instructions to the processing unit of the computer system

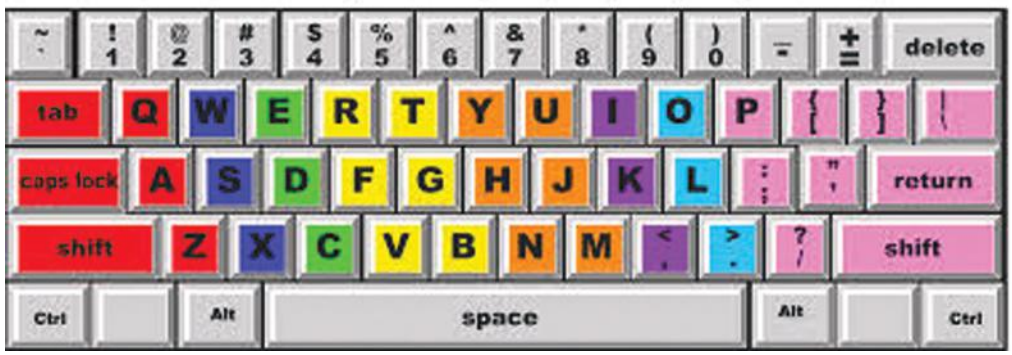


Keyboard

Keyboard is one of the most important input devices of a computer. It is a device used for entering data and instructions into the computer. It has different keys to perform various operations. The keys have letters, numbers and other symbols written on them. Instructions are given to the computer by pressing these keys. There are many tasks that you can accomplish using a keyboard. You can use it to type your documents, access menus, make changes in your documents and much more.

There are five types of keys on a keyboard. They are:

- Alphabet keys - Alphabet keys are used for typing text.
- Numeric keys - Numeric keys are used for typing numbers.
- Function keys - Function keys are used for special functions depending on the program used.
- Arrow keys - Arrow keys are used for moving the cursor on the screen. They are marked with arrows in four different directions.
- Special keys - Special keys are used for performing special tasks. Some of the special keys are Enter key, Caps Lock key, Spacebar, Delete key and Backspace key.



Pointing Devices

A pointing device is an input device used to move the pointer on the screen. The major pointing device is the mouse for the desktop computer and the touchpad for the laptop. Some of the other pointing devices are light pen, touch screen and joystick.

Mouse

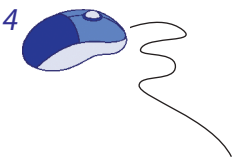
The mouse is also an input device. It is a small plastic box with buttons on top. There is a small wheel called scroll button in the latest mouse. The bottom of the mouse is flat and contains a mechanism that detects movement of the mouse. It is placed on a mouse pad, which provides a flat surface for the mouse to roll on. It is used to draw pictures on the screen.

Touchpad

It is one of the latest pointing devices. It has a flat rectangular surface of 1.5 or 2 inches square. It consists of a soft pad sensitized to finger movement or pressure and used especially on laptop computers as an alternative to a mouse.

Light pen

Light pen is a light-sensitive pointing device shaped like a pen. It has a light sensor fixed at the end of a pen-shaped tube. It allows the user to point to displayed objects, or draw on the screen in a similar way to a touch screen but with greater positional accuracy.



Touch screen

Touch screen is also an input device. The screens are sensitive to pressure; a user interacts with the computer by touching pictures or words on the screen. The touch screen can be used to select the options displayed on the screen. They are commonly used in hotels, hospitals and airports.

Joystick

Joystick is a stick mounted on a circular base with buttons on top of the stick. It has a lever which can move in any direction. The joystick is able to move in different directions. It is mainly used for playing computer games.

Brainstorming task

Fill in the blanks. Choose the answer from the clue box.

Clue Box

Mouse, Alphabet, Input, joystick, lightpen

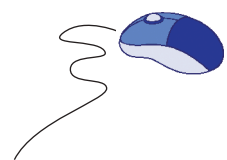
a. _____ is a device used to enter data and instructions into the computer.

b. _____ keys are used for typing text.

c. _____ is a small plastic box with buttons on top.

d. A_____ is a light-sensitive pointing device shaped like a pen.

e. A _____ is a stick mounted on a circular base with buttons on top of the stick.



Video Input Device

A video input device is any device that sends video. There are several types of video input devices that allow you to play video from an external device on a video display. The information can be stored in a multitude of formats depending on the user's requirement. Some of the video input devices are digital camera and web camera.

Digital camera

Digital camera (or digicam for short) is a camera that takes video or still photographs, or both, digitally by recording images via an electronic image sensor. The digital camera can be powered by batteries. Digital cameras can also be connected to a computer to transfer photos and videos.

Web camera

Web camera is attached on the top of the computer screen. It allows the user to create a movie and take digital photographs. It also allows the user to see and talk to a person over the Internet.

Facts Corner

First developed in 1991, a webcam was pointed at the Trojan Room coffee pot in the Cambridge University Computer Science Department.

Tricky Terms

Input device	:	A device used to enter data and instructions into the computer.
Light pen	:	A light-sensitive pointing device shaped like a pen.
Joystick	:	A stick mounted on a circular base with buttons on top of the stick.
Digital camera	:	A camera that takes video or still photographs, or both, digitally by recording images via an electronic image sensor.

Let Us Revise

- Input device is a device used to enter data and instructions into the computer.
- Keyboard is used for entering data and instructions into the computer.
- A pointing device is an input device used to move the pointer on the screen.
- Mouse is an input device that is made up of small plastic box with buttons on top.
- Touchpad has a flat rectangular surface of 1.5 or 2 inches square.
- Light pen is a light-sensitive pointing device shaped like a pen.
- Joystick is a stick mounted on a circular base with buttons on top of the stick.
- Digital camera (or digicam for short) is a camera that takes video or still photographs, or both, digitally by recording images via an electronic image sensor.

Chapter Review

1. Fill in the blanks. Choose the answer from the clue box.

Clue Box

Web camera, mouse, Input, joystick, light pen

a. _____is a device used to enter data and instructions into the computer.

b. The_____ is a small plastic box with buttons on top and a scroll button.

c. _____has a light sensor fixed at the end of a pen-shaped tube.

d. A_____is a stick mounted on a circular base with buttons on top of the stick.

e. _____allows the user to see and talk to a person over the Internet.

2. Match each term with the statement that best describes it.

Touchpad	A light-sensitive pointing device shaped like a pen.
Digital camera	A stick mounted on a circular base with buttons on top of the stick.
Joystick	A camera that takes video or still photographs, or both, digitally by recording images via an electronic image sensor.
Light pen	A stationary pointing device that has a flat rectangular surface of 1.5 or 2 inches square.

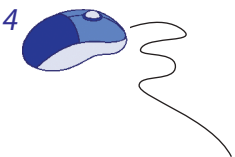
3. Say whether these sentences are True or False.

a. Input device is a device used to enter data and instructions into the computer.

b. Touchpad has a flat rectangular surface of 1.5 or 2 inches square.

c. A touch screen is a stick mounted on a circular base with buttons on top of the stick.

d. A audio input device is any device that sends video.



4. Answer the following questions.

a. What is an input device? Name two most common input devices.

b. What is a keyboard? Name the different types of keys found in a keyboard.

c. What is a pointing device? Name any three pointing devices.

d. What is a computer mouse?

e. What is a light pen? What does it do?

f. What is a joystick?

g. What is a video input device? Name some of the video input devices.

h. h. What is web camera?

Extrapolative Exercise

a. Make a list of latest input devices and explain their uses.

b. Read the clues and write the names of these input devices.

1

I am used for entering data and instructions into the computer.

2

I am a light-sensitive pointing device shaped like a pen.

c. Search on the Internet and find some more input devices. Write their uses .

Chapter 3

System Unit

Learning Objectives

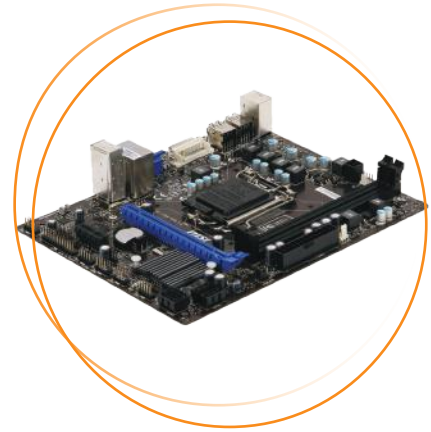
- Define system unit and identify the different parts of system unit.
- Explain the main components present in system unit.
- Define Central Processing Unit and list the functions of CPU.
- Identify the different parts of CPU.
- Define secondary storage device and list its examples.

An Overview

System unit is the most part of a computer system. It is a box like case standing beside the monitor or kept under the monitor. It includes the motherboard, CPU, RAM, and other components. The system unit also includes the case that houses the internal components of the computer. It keeps the internal parts of a computer safe and protects from outside damage or harm. System unit cases can come in many different sizes.

Motherboard

The motherboard is a large board inside a system unit. It is the main circuit board containing the primary components of a computer system. This board contains the microprocessor, RAM, ROM and other important components of a computer. It can also be called as the "backbone" of computer.



expanding your horizons

A typical desktop computer has its microprocessor, main memory, and other essential components connected to the motherboard. A motherboard is sometimes alternatively known as the mainboard, system board, planar board or logic board.

Central Processing Unit

The CPU (Central Processing Unit) is the most important part of a computer. It is the 'brain' of the computer. It is the main processing unit of a computer where all the major decisions are taken and the other parts function as directed by it. It processes and after processing it displays information on the screen. It works like a bridge between input and output devices. It can only carry out the instructions programmed into it. It is also called the "processor".

Functions of CPU

The functions of CPU are listed below:

- The main function of CPU is to perform arithmetic and logical operations on data.
- CPU is used to control the functions performed by the other components.
- Most of the devices connected to the computer communicate with the CPU to perform any task.

Parts of CPU

The CPU is the most important element of a computer system. It is the brain of the computer where most calculations take place. There are three components of the CPU that works together to perform different processing operations. They are:

a. Arithmetic and Logic Unit (ALU)

b. Control Unit

c. Memory Unit (MU)

Arithmetic Logic Unit

The Arithmetic Logic Unit performs all the arithmetic calculations like addition, subtraction, multiplication and division. It also makes comparison of data such as less than, greater than and equal to.

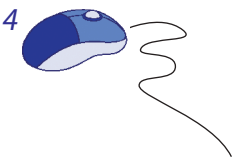
Control Unit

The control unit is the heart of the computer system. It controls the working of all the other parts of the computer. The functions of Control Unit are:

a. It transfers data from input devices to the primary memory.

b. It then passes the data from primary memory to ALU.

c. It sends the result from the primary memory to the output devices.



Memory Unit

The data and instructions that are entered into the computer using input devices, are to the stored inside the memory unit. Memory unit is divided into two storage parts. They are:

a. Primary memory

b. Secondary storage

Primary Memory

The primary memory is the main memory of a computer. It is the internal storage of the computer. It holds data temporarily while computer processes it. It is also called the internal memory.

Primary memory is divided into two types: RAM and ROM. Each type of primary memory is used for a different purpose in a computer system.

a. Random Access Memory

RAM (Random Access Memory) is a temporary memory. The user can read and write into a RAM. Its contents are lost when the power supply is switched off.

b. Read Only Memory

ROM (Read Only Memory) is a permanent memory. The user can read but cannot write into a ROM. Its contents are not lost when the power supply is switched off.

Facts Corner

Early computers used relays, or delay lines for "main" memory functions.

Secondary Storage Devices

Secondary storage devices are the devices that are used to store the data and information into the computer. Hard disk, pen drives, DVD, Blue-ray disk and CD-ROM are the examples of secondary storage media and the device that uses or holds the media is known as a secondary storage device.

Hard disk

Hard disk is the main storage device of the computer. It is a rigid magnetic disk fixed permanently within a drive unit and used for storing computer data. Hard disks generally offer more storage and quicker access to data.

Facts Corner

The first IBM drive, the 350 RAMAC, was approximately the size of two refrigerators.

Pen drive

Pen drive is a small, lightweight, removable disk. It is very small in size and can be carried in a pocket or hand like a pen. It is used for storing and transferring audio, video, and data files from a computer. It is also called thumb drives.

Optical Disk

Optical disk is a disk coated with reflecting medium. It is portable and can hold a large amount of data. Data is read and recorded through a laser beam. The optical disks have the capacity to store a large amount of data in the form of text, graphics, audio and video. CD-ROM (Compact Disk Read Only Memory, DVD (Digital Versatile Disk) and Blue-Ray disk are the common types of optical disks.

Floppy Disk

Floppy disk is a popular secondary storage medium. It is a plastic disk coated with magnetic material. It is sealed with a protective jacket. A floppy disk is inserted into a floppy drive to read data from it or write information on it. It is also used to transfer small files from one computer to another. The most common size is 3.5 inches which holds upto 1.44 MB (megabyte) of data.

expanding your horizons

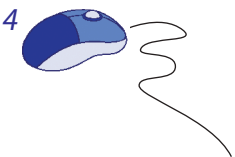
The Blu-ray format is HD-DVD format that uses a 405nm-wavelength blue-violet laser technology, The Blu-ray format was developed jointly by Sony, Samsung, Sharp, Thomson, Hitachi, Matsushita, Pioneer and Philips, Mistubishi and LG Electronics.

Tricky Terms

System unit	:	A box like case standing beside the monitor or kept under the monitor.
Motherboard	:	The main circuit board containing the primary components of a computer system.
CPU	:	The main processing unit of a computer where all the major decisions are taken and the other parts function as directed by it.
Pen drive	:	A small, lightweight, removable disk.

Let Us Revise

- System unit is a box like case standing beside the monitor or kept under the monitor.
- The motherboard is a large board inside a system unit.
- CPU is the main processing unit of a computer where all the major decisions are taken and the other parts function as directed by it.
- The control unit is the heart of the computer system.
- RAM (Random Access Memory) is a temporary memory.
- ROM (Read Only Memory) is a permanent memory.
- Secondary storage devices are the devices that are used to store the data and information into the computer.
- Optical disk is a disk coated with reflecting medium.
- Floppy disk is a plastic disk coated with magnetic material.



Chapter Review

1. Fill in the blanks. Choose the answer from the clue box.

Clue Box

CPU, Motherboard, Secondary memory, ALU, Optical disk

a. _____ is the main circuit board containing the primary components of a computer system.

b. _____ is the brain of the computer where most calculations take place.

c. The _____ performs all the arithmetic calculations and also makes comparison of data such as less than, greater than and equal to.

d. _____ is a permanent memory.

e. _____ is a disk coated with reflecting medium.

2. Match each term with the statement that best describes it.

Motherboard	The 'brain' of the computer.
Hard disk	The heart of the computer system.
Pen drive	A rigid magnetic disk fixed permanently within a drive unit.
RAM	A small, lightweight, removable disk.
CPU	The main circuit board containing the primary components of a computer system.

3. Say whether these sentences are True or False.

a. System unit keeps the internal parts of a computer safe and protects from outside damage or harm.

b. Motherboard works like a bridge between input and output devices.

c. Control unit controls the working of all the other parts of the computer.

d. The user can read but cannot write into a RAM.

4. Answer the following questions.

a. What is a system unit? What does it contain?
b. What is Central Processing Unit?
c. What are the function of Central Processing Unit?
d. What are the three different parts of Central Processing Unit?
e. What is Arithmetic Logic Unit?
f. What are the functions of Control Unit?
g. Name two types of primary memory present in a computer.
h. What is Random Access Memory?
i. What is a secondary storage? Give examples.
j. What is an optical disk?

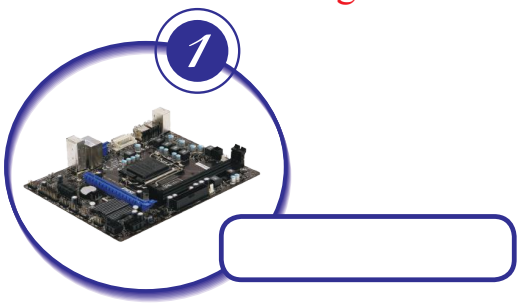
5. Write the full form of the following.

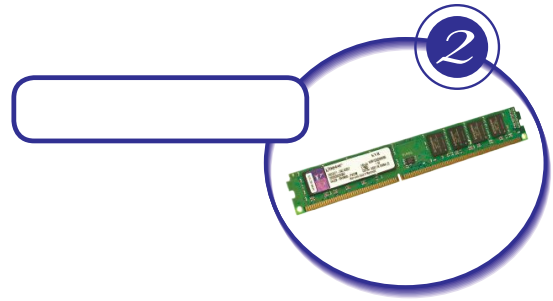
RAM ROM MU ALU

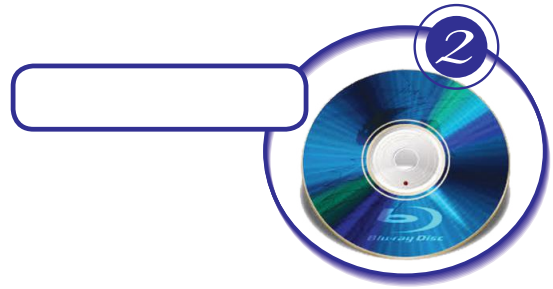
Extrapolative Exercise

a. Visit your computer lab, and try to explore the internal parts of system unit and watch how they are attached.

b. Name the following devices.







Chapter 4

Computer 'Outputs'

Learning Objectives

- Define output device and explain the functions of output devices.
- Explain the different types of computer monitors.
- Define printer and explain the two most commonly used printers.
- Define speakers and headsets.

An Overview

Output device is used to show the result after processing inside the computer. Some of the common output devices are monitor, printer and speaker.

The functions of output devices are:

a. convert the result produced by the computer after processing, into a form that we can understand.

b. display the converted results with the help of the output devices.

Monitor

A monitor is an output device looks like a television. It shows the result of work done by the computer. It is a soft copy output as it provides a temporary display of meaningful information. The front part of the monitor is called its screen.The cathode ray tube (CRT), the liquid crystal display (LCD) and Light Emitting Diode (LED) are the types of monitor available in the market.

LCD stands for liquid crystal display. It is a flat panel display, electronic visual display. The newer, flatter type of computer screen.

CRT stands for cathode ray tube. It is the traditional, glass-screen, television-set-like monitor.

LED stands for Light Emitting Diode. It is a flat panel display, which uses an array of light-emitting diodes as a video display.

Printer

A printer is a hardcopy output device used to print the results of work done by the computer on paper. It is a hard copy output as it produces a printout of the output from a computer. There are different types of printers. Dot matrix and laser printers are the most commonly used printers.

Inkjet printer is a computer peripheral that produces hard copy by spraying ink onto paper. Inkjet printer does not make a noise and can produce a good printout of both graphics.

Laser printer is a type of printer that utilizes a laser beam to print on paper. It has a toner cartridge which contains fine powdered black plastic called toner. A laser printer offers excellent print quality for text and graphics. It also prints at a very high speed.

Speakers and Headphones

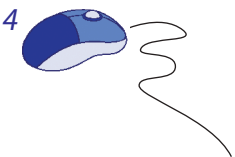
Speakers and headsets are the output devices that allow the users to hear sound output from the computer. They can be of different shapes and sizes. Computer speakers range widely in quality and in price. Some computer speakers have equalization features such as bass and treble controls.

Tricky Terms

Monitor	:	A TV like screen which displays text, pictures and videos.
Soft copy	:	The output displayed on a monitor.
Printer	:	An output device that gives printed output on paper.
Hard copy	:	The printed or permanent copy of the output.
Laser printer	:	A high-speed printer that uses a laser beam to print on paper.

Let Us Revise

- The device that is used to show the output to the user is called an output device.
- A monitor is an output device which resembles a television.
- LCD is a flat panel display, electronic visual display.
- LED is a flat panel display, which uses an array of light-emitting diodes as a video display.
- A printer is a device used to print the results of work done by the computer on paper.
- An inkjet printer is a computer peripheral that produces hard copy by spraying ink onto paper.
- Laser printer is a type of printer that utilizes a laser beam to print on paper.
- Speakers and headsets are used to listen to the sound being played by the computer system.



Chapter Review

1. Fill in the blanks. Choose the answer from the clue box.

Clue Box

Laser, CRT, Printer, Monitor, output

a. The device that is used to show the output to the user is called an _____device.

b. _____is a soft copy output as it provides a temporary display of meaningful information.

c. _____is the traditional, glass-screen, television-set-like monitor.

d. A_____is a device used to print the results of work done by the computer on paper.

e. _____is a type of printer that utilizes a laser beam to print on paper.

2. Match each term with the statement that best describes it.

Laser printer	A TV like screen which displays text, pictures and videos.
Printer	The output displayed on a monitor.
Hard copy	An output device that gives printed output on paper.
Soft copy	The printed or permanent copy of the output.
Monitor	A high-speed printer that uses a laser beam to print on paper.

3. Say whether these sentences are True or False.

a. LCD is the traditional, glass-screen, television-set-like monitor.

b. A printer is a device used to print the results of work done by the computer on paper.

c. An inkjet printer is a computer peripheral that produces hard copy by spraying ink onto paper.

d. Laser printer is a type of printer that utilizes a laser beam to print on paper.

4. Answer the following questions.

a. What do you mean by output?
b. What is an output device? Name three common output devices.
c. What is soft copy?
d. What is the difference between monochrome monitor and colour monitor?
e. What is a printer? Name the two most commonly used printers.
f. What is a dot matrix printer? State any two disadvantages of dot matrix printer.
g. What is a laser printer?
h. What are speakers?

5. Write the full form of the following.

CRT LCD LED TV

Extrapolative Exercise

a. Visit your computer lab, and try to explore the different types of output devices attached to your computer system.
b. Match the following pictures of output devices with their names by colouring with same colour in boxes.

Answer Box

	Printer
	Speakers
	Monitor
	Headphones

Chapter 5

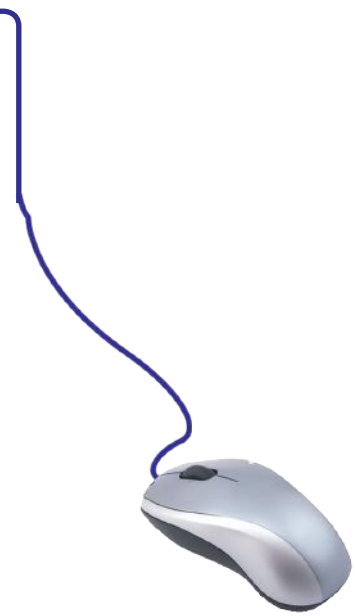
More About Windows 7

Learning Objectives

- Explain the importance of operating system in a computer system.
- Identify the important components of Windows Desktop.
- Define Start menu and explain its important elements.
- Explain the steps to personalize Windows 7.

An Overview

Computers need operating system software in order to manage resources and accept commands from the user. The operating system is the glue that makes software programs and hardware work together. As the name "operating system" denotes, it is what helps the computer "operate". An operating system is an organized collection of programs that acts as an interface between machine hardware and users. Without an operating system, you cannot run any program.



Microsoft Windows 7

Windows is the name of an operating system developed by Microsoft Corporation, USA. The Windows operating system helps the user to operate and control the overall activities of a computer. Windows has many versions that regularly get updated with time and requirements. Some versions are Windows 98, Windows XP and the recent Windows 7.

Windows 7 is a Graphical User Interface (GUI) in which all the items are represented in the form of pictures and graphical links. When you switch ON your computer, Windows 7 gets loaded automatically.

a. Switch ON the main power supply button.

b. Switch ON the power button on the UPS.

c. Switch ON the power button on the CPU.

d. Switch ON the power button on the monitor.

e. Type the password and press Enter key. Windows 7 desktop will appear.

Facts Corner

Windows 8 is a personal computer operating system developed by Microsoft.

Desktop

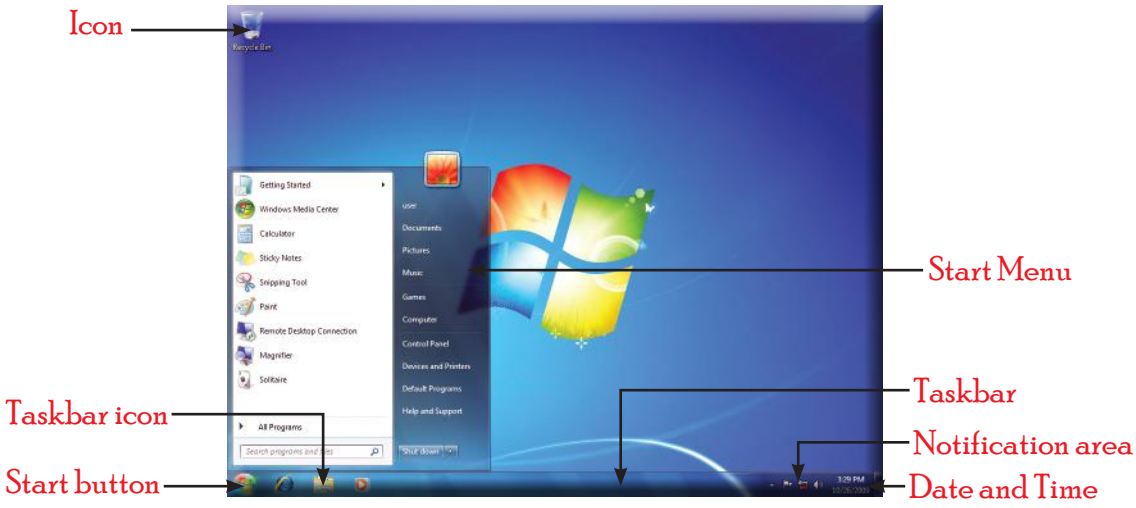
The first screen you see when the operating system (Windows) has finished loading, is known as desktop. It remains in the background for all the time.

Some of the features of desktop are:

a. It is where all the icons of different applications exist.

b. It is the home for all shortcuts. Programs can be quickly opened by clicking the respective shortcuts.

c. It holds various information such as time, date, etc.



Icons

Icon is a picture or symbol that appears on a monitor and is used to represent a command, as a file drawer to represent filing. Icons are very useful in applications that use windows, because with the click of a mouse button you can shrink an entire window into a small icon. (This is sometimes called minimizing.) To redisplay the window, you merely move the pointer to the icon and click (or double click) a mouse button. (This is sometimes called restoring or maximizing). Icons are a principal feature of graphical user interfaces.

Taskbar

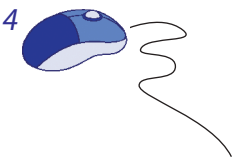
The taskbar is a desktop toolbar application that lets you perform tasks such as switching between open windows and starting new applications. The taskbar is usually associated with the Microsoft Windows interface. The Windows taskbar has four main sections:

- Start Button (labeled with "Start" and the Windows logo)
- Quick Launch (allowing applications to be launched with a single click)
- Running Programs (allowing easy access to running programs)
- Notification Area (contains icons for small running programs such as the clock, calendar and volume control)

Start Menu

The Start Button starts programs, opens documents and provides access to the various parts of the system. Windows menu can be customized as needed.

All program	displays a list of the programs that are installed through Windows and available to use.
Documents	displays a list of the 15 documents recently used allowing the user to open them directly from this menu.
Settings	displays system components, such as printers, control panel and taskbar.
Find/Search	used to find files, folders and phrases in documents on the computer.
Help	displays textual information about certain topics related to computing.
Run	allows you to start a program from a command line.
Shut down	shuts down the computer, restarts the computer or logs you off from a network.

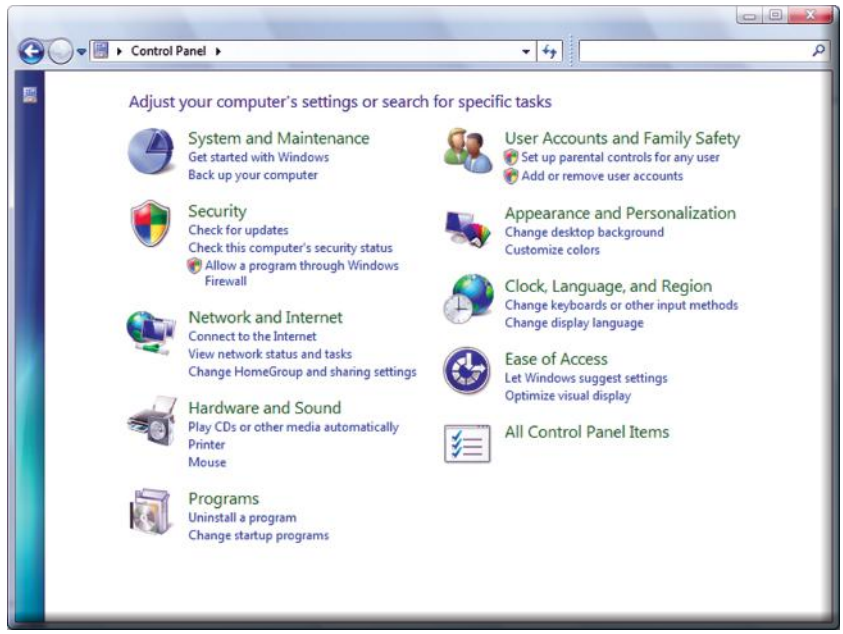


Personalize Your PC

The Personalization Gallery is the place to get free wallpapers, languages, and themes. To personalize your desktop you have to open the Appearance and Personalization window.

To open Personalization window, follow these steps:

- Click on ***Start button***. The start menu will appear.
- Click on ***Control Panel***. The Control Panel window appears.



- Click on ***Appearance and Personalization***. The Appearance and Personalization window appears.
- Click on ***Personalization***. The Personalization window appears.
- Click on the ***Close button*** when you have finished working.

Facts Corner

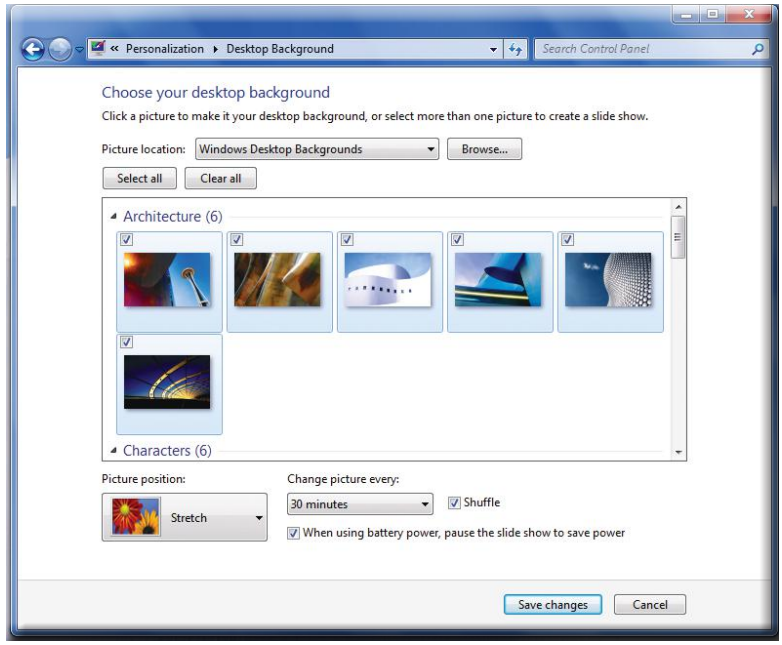
The Control Panel in Windows 7 is the place to go when you need to make changes to various settings of your computer system.

Changing Desktop Background

Microsoft Windows 7 lets you change the desktop wallpaper on your computer to personalize it. You can use a digital photo, a solid color or frame a photo with solid color. Microsoft Windows 7 provides several default wallpapers you can choose from. You can also create a "slideshow" of pictures to alternate between your favourite desktop wallpapers.

To change desktop background, follow these steps:

- Click on the ***Start button*** located on the lower, left-hand corner of the screen.
- Click ***Control Panel*** to open the Microsoft Control Panel.
- Search for ***Desktop Background*** in the Control Panel.
- Select ***Change Desktop Background*** from the search results.



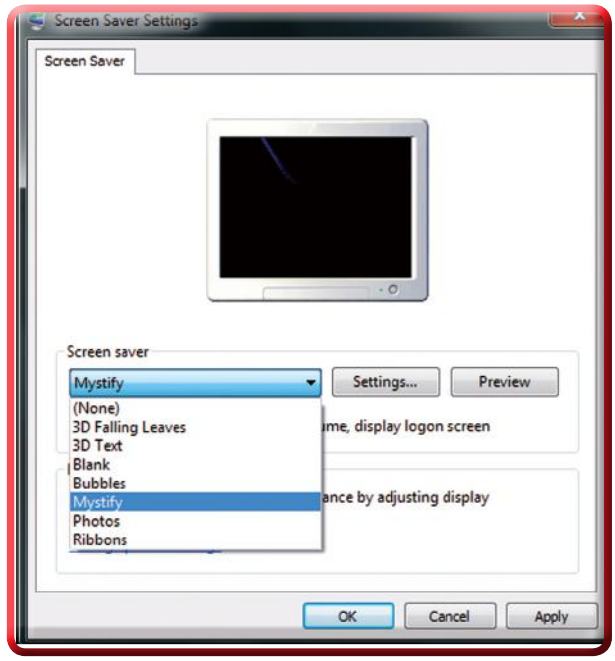
- Select the picture or colour you want to use as a desktop wallpaper. You can select multiple images for a slides if you want to automatically switch between photos for the wallpaper.
- Press ***Save Changes***.

Changing Screen Saver

A screen saver is an animated image that is activated on the screen when you do not use your computer for a period of time. Windows 7 includes a number of interesting screen savers which you can use to prevent passers-by from seeing what's on your computer when you are away.

To change screen saver, follow these steps:

- Open the ***Start menu*** and type screen saver, then click ***Change screen saver*** from the results list.
- Click the pull-down menu below the ***screen saver*** label and select your preferred screensaver from the list.



- Click ***Preview*** to preview your screensaver. This verifies you have the proper screensaver selected.
- Type a number in the ***Wait*** field below the screensaver selection menu. This is the number of minutes the system must be idle before the screensaver is displayed.
- Click ***OK*** to save and activate the changes to the screensaver configuration.

Applying Theme

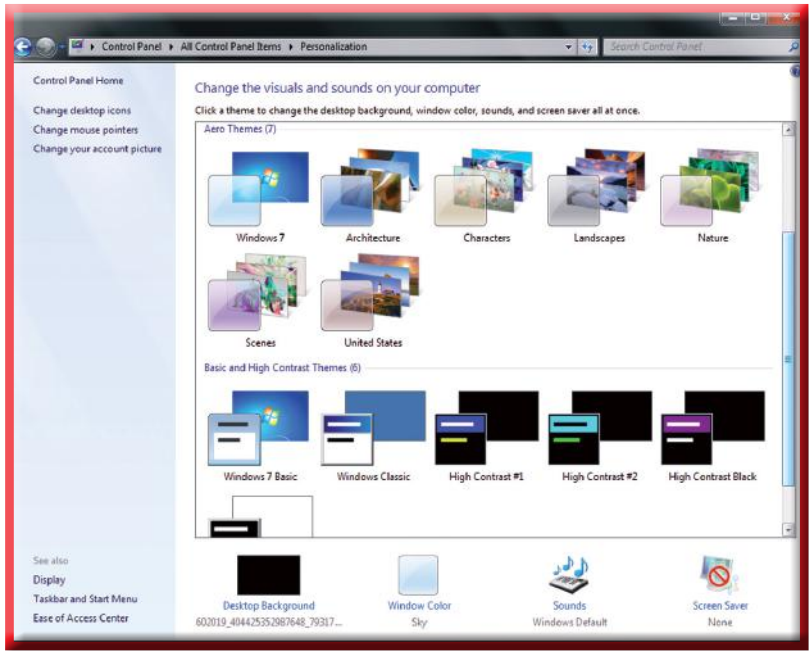
A theme is a combination of pictures, colors, and sounds on your computer. It includes a desktop background, a screen saver, a window border color, and a sound scheme. Some themes might also include desktop icons and mouse pointers.

To apply theme, follow these steps:

- Click on the ***Start button*** located on the lower, left-hand corner of the screen.
- Click ***Control Panel*** to open the Microsoft Control Panel.
- In the search box, type ***personalization***, and then click ***Personalization***.Scroll down to view the available themes.

  Aero Themes use transparency effects, color intensity, and high resolution background images.

  Basic and High Contrast use simple effects or high-contrast effects.
- Click on the theme you want to use. Windows 7 applies the specified theme.

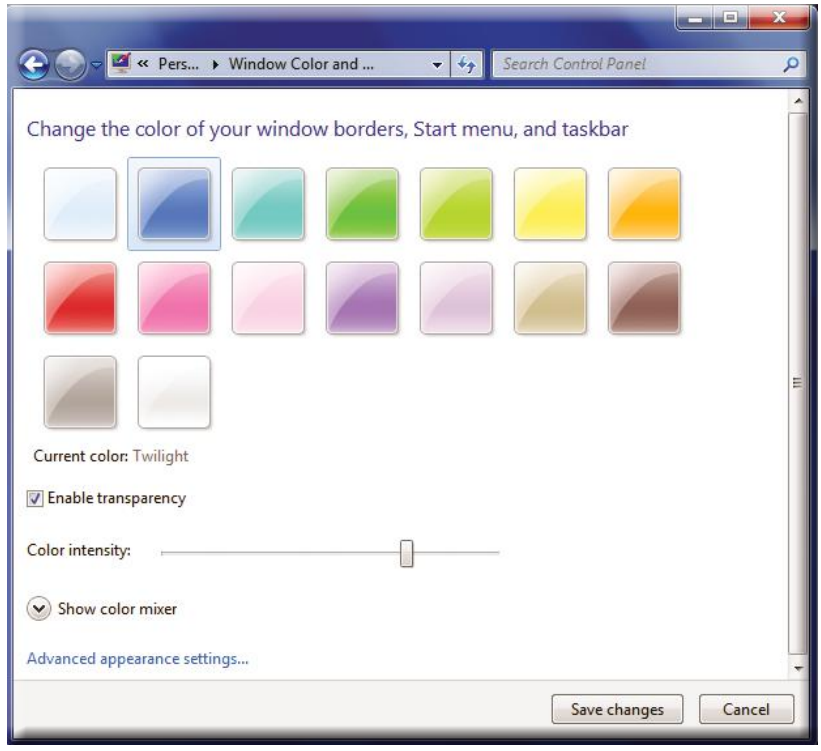


Change Your Color Scheme

The Windows 7 operating system includes a graphical interface made up of various colors, such as twilight, slate, lime, sun, fuchsia, frost, ruby and sea. The Windows 7 operating system selects some combination of these colors by default.

To change your Color Scheme, follow these steps:

- Click ***Start***, ***Control Panel***, type window color in the search box and click ***Change window glass colors***.
- Click ***Advanced Appearance Settings***. The Window Color and Appearance screen opens.



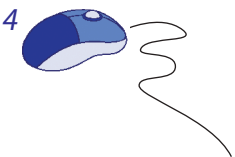
- Select the item whose color you wish to modify from the ***Item drop-down menu*** and then select the corresponding color from the ***Color 1 drop-down menu***.
- Click ***Apply*** and then click ***OK***.

Tricky Terms

Desktop	:	The background area of your screen.
GUI	:	A way of allowing users to communicate with a computer that makes use of icons and pull-down menus.
Icons	:	Small pictures that display programs.
Window	:	A rectangular area in which the contents of a program or a document are displayed.

Let Us Revise

- Windows is the name of an operating system developed by Microsoft Corporation, USA.
- Windows 7 is a Graphical User Interface (GUI) in which all the items are represented in the form of pictures and graphical links.
- Desktop is a work area in Windows.
- Icons are the small pictures that appear on the Desktop.
- A small arrow on the computer screen, which moves with the movement of the mouse, is a mouse pointer.
- Taskbar icons are the icons through which you can launch some Windows 7 features with just a mouse click.
- Notification area displays small icons that notifies you about the things that are currently happened on the computer.
- The Personalization Gallery is the place to get free wallpapers, languages, and themes.



Chapter Review

1. Fill in the blanks. Choose the answer from the clue box.

Clue Box

Notification Area , personalization Gallery, pointer, Icons, Operating system

a. _____is a software which helps to operate and control the overall activities of a computer.

b. _____are the small pictures that appear on the Desktop.

c. A small arrow on the computer screen, which moves with the movement of the mouse, is a_____.

d. _____displays small icons that notifies you about the things that are currently happened on the computer.

e. The_____is the place to get free wallpapers, languages, and themes.

2. Match each term with the statement that best describes it.

Screen saver	The background area of your screen.
Icons	A combination of pictures, colors, and sounds on your computer.
Window	Small pictures that display programs.
Theme	A rectangular area in which the contents of a program or a document are displayed.
Desktop	An animated image that is activated on the screen when you do not use your computer for a period of time.

3. Say whether these sentences are True or False.

a. Windows 7 is a Graphical User Interface (GUI) in which all items are represented in the form of graphics.

b. A small arrow on the computer screen, which moves with the movement of the mouse, is a cursor.

c. The Personalization Gallery is the place to get free wallpapers, languages, and themes.

d. A theme is an animated image that is activated on the screen when you do not use your computer for a period of time.

e. The Windows 7 operating system includes a graphical interface made up of various colors, such as twilight, slate, lime, sun, fuchsia, frost, ruby and sea.

4. Answer the following questions.

a. What is Microsoft Windows?

b. What do you mean by "Desktop"?

c. What are icons? Write the names of any three icons found on the Desktop.

d. What is the function of the Taskbar?

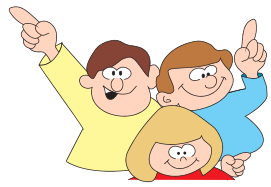
e. What is a Personalization Gallery?

f. Which theme uses simple effects or high contrast effects?

5. Write the full form of the following.

GUI UPS OS PC

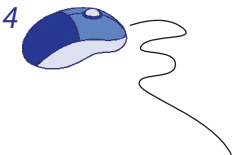
Lesson Labs



a. Start Windows on your computer. Double click on the My Computer icon on the desktop to open the My Computer window. Note down the names of different icons present in it.

b. Visit your computer lab and apply the steps to change the background setting, the screen saver and applying themes.

c. Save your photograph on your school computer and set it as wallpaper on the desktop.



Chapter 6

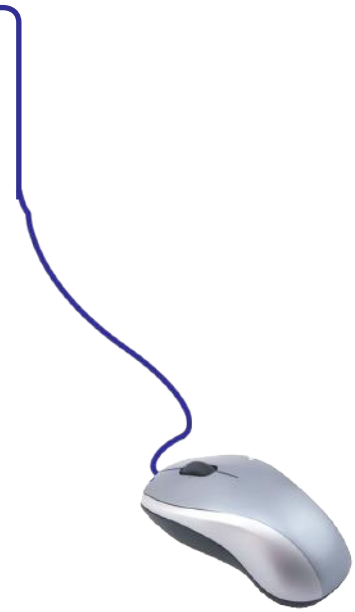
More Fun in Paint

Learning Objectives

- Explain the use of graphics software.
- Define Paint and explain the use of color boxes.
- Identify and explain the use of various tools in Paint.
- Explain the advanced features of Paint.

An Overview

Graphic software is a kind of software which is usually used to manipulate visual images or creating, editing and managing 2D computer graphics. These computer graphics include clip arts, web graphics, digital photos, logos, backgrounds and headings. PAINT is a simple graphic program that you can use to create drawings on a blank canvas or on top of other pictures. It is located in Accessories. This is done by using the various tools and colours present in the Paint program.



Starting Paint Program

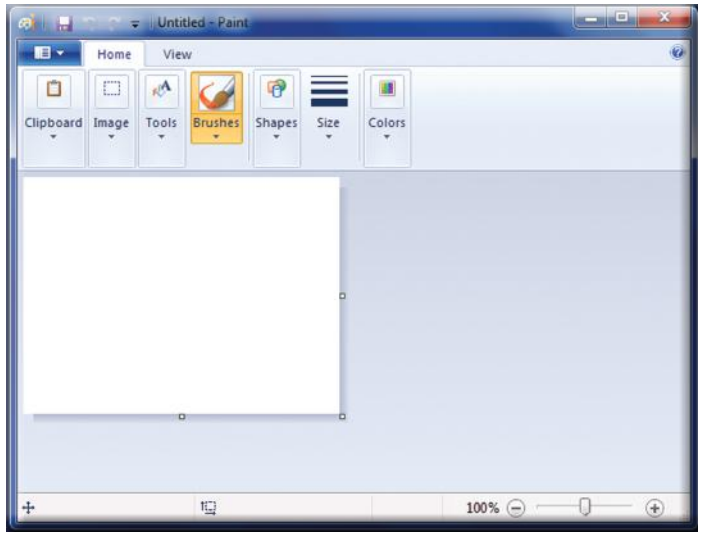
Let us see how to get into the colourful world of PAINT. Switch ON the computer. Your monitor displays Windows Desktop. Windows Desktop has a Start button on the bottom left corner.

a. Click on the Start button.

b. Click on All Programs.

c. Select Accessories. You will notice a list of options.

d. Click on Paint. The Paint window appears on the screen.



Color Boxes

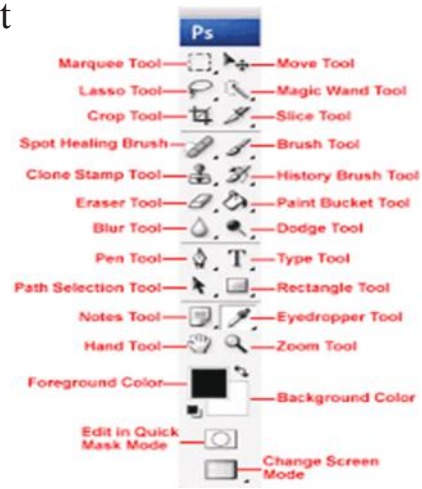
The Color boxes indicate the current Color 1 (foreground color) and Color 2 (background color) colors.

The Color 1 box shows the active colors or foreground color. To change the foreground color, click on Color 1 box and then click on the desired color palette.

The Color 2 box is the background color. The background color is the default color of any new image that you create. To change the background color, click on Color 2 box and then click on the desired color in the Color palette.

Tools in Paint

Paint contains a different tools to draw and insert shapes into your drawing. The different types of tools in Paint



Pencil Tool	It is used to draw straight, wavy and curved lines. It is used as a normal pencil. Freehand drawing can be done using this tool.
Eraser Tool	This tool is just like your normal eraser which is used to erase a drawing or a part of it.
Brush Tool	The brush tool is used for drawing freehand drawings using coloured brush.
Line Tool	The line tool is used to draw horizontal, vertical or slanting or straight lines of different thickness.
Rectangle Tool	The rectangle tool is used for drawing rectangles or squares.
Circle Tool	The circle tool is used for drawing oval shapes and circles.
Rounded Rectangle Tool	The rounded rectangle tool is used for drawing rectangles with rounded corners.
Polygon Tool	The polygon tool is used for drawing polygons.
Curve Tool	The curve tool is used to draw curved shaped objects.
Text Tool	The text tool is used to write text on the Paint screen.

Resize and Skew

Resize command is used to change the size of the drawing by making it taller or shorter. Skew command is used to twist the drawing.

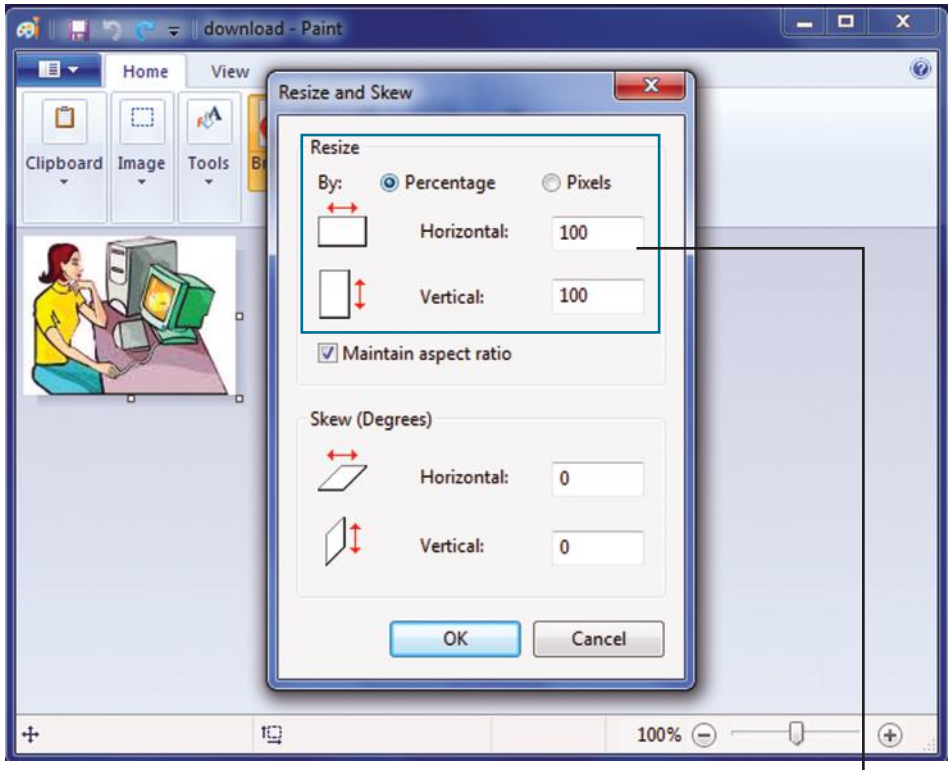
Resizing an image

a. Click on ***Home tab***.

b. Click on ***Select***.

c. Select the image by dragging the mouse over it.

d. Click on ***Resize***. Resize and Skew dialog box appears.



e. Select the ***Maintain aspect ratio*** check box.

f. Select the radio button of pixels.

g. Type the horizontal value (width) or vertical value (height).

h. Click on ***OK***. The new size of the image appears.

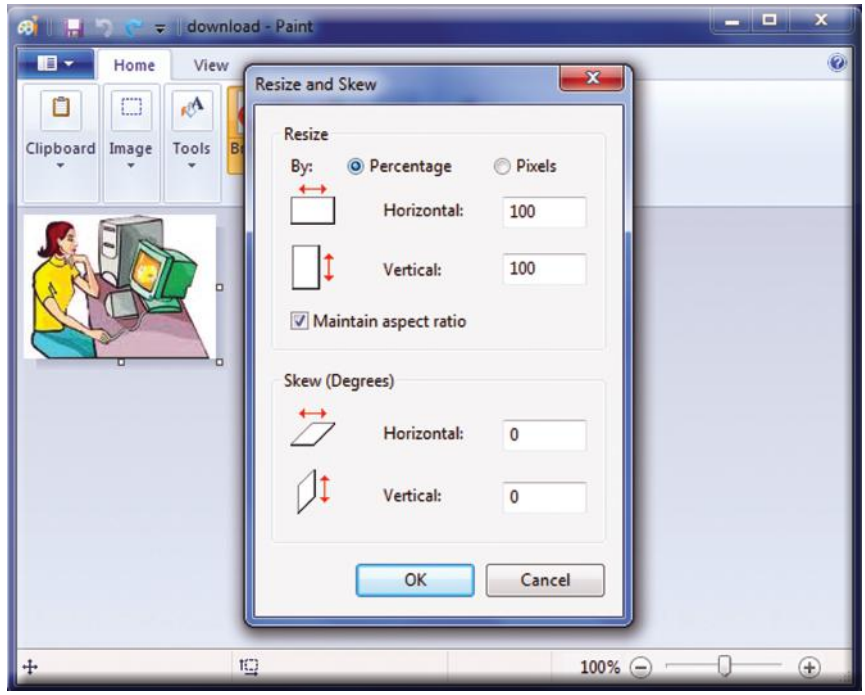
Skew an image

a. Click on ***Home tab***.

b. Click on ***Select***.

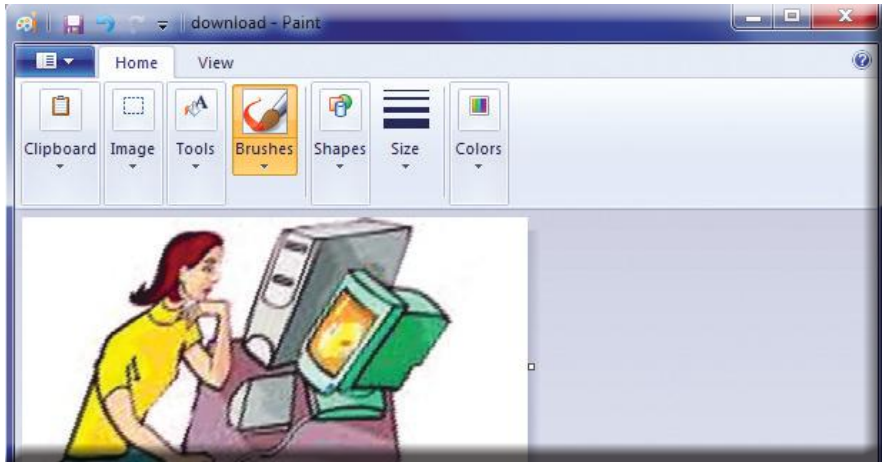
c. Select the image by dragging the mouse over it.

d. Click on ***Resize***. Resize and Skew dialog box appears.



e. Type the amount of skew in the Horizontal and Vertical boxes.

f. Click on ***OK***. The skew of the image appears.



Flip and Rotate

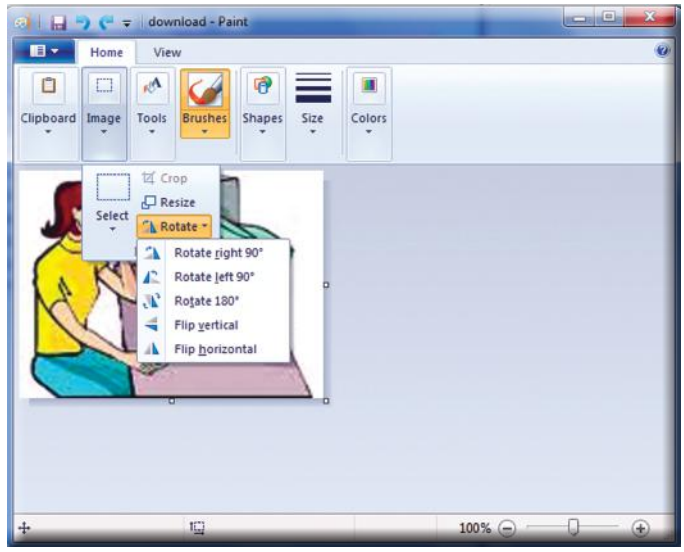
Paint allows you to flip or rotate your drawing. Flip command is used to create a mirror image of the picture either horizontally or vertically. Rotate command is used to change the position of image at different angles.

a. Click on ***Home tab***.

b. Click on ***Select***.

c. Select the image by dragging the mouse over it.

d. Click on ***Rotate***. Rotate and Flip options appears.



e. Click on rotation direction you want.

Erasing part of a picture

The Eraser tool is used to erase areas of your picture.

- On the ***Home tab***, in the Tools group, click the ***Eraser tool***.
- Click ***Size***, click an eraser size, and then drag the eraser over the area of the picture that you want to erase. Any areas that you erase will reveal the background color (Color 2).

Crop Image

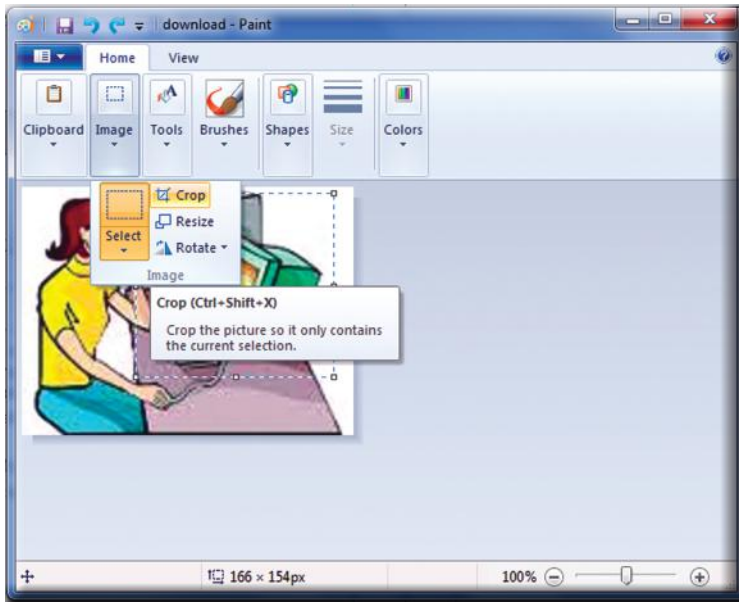
The Crop tool is used to crop a picture so only the part you selected appears in your picture. Cropping lets you change the picture so only the selected object or person is visible.

a. Click on ***Home tab***.

b. Click on ***Select***.

c. Select the image by dragging the mouse over it.

d. Click on ***Crop***. Only the selected part of the image appears.



Copy and Paste

Copying image allow you to make duplicate image in the drawing area. It can save your time by not drawing the same image again and again. The Copy and Paste command is used to copy the image from one place and paste it at another place.

a. Click on ***Home tab***.

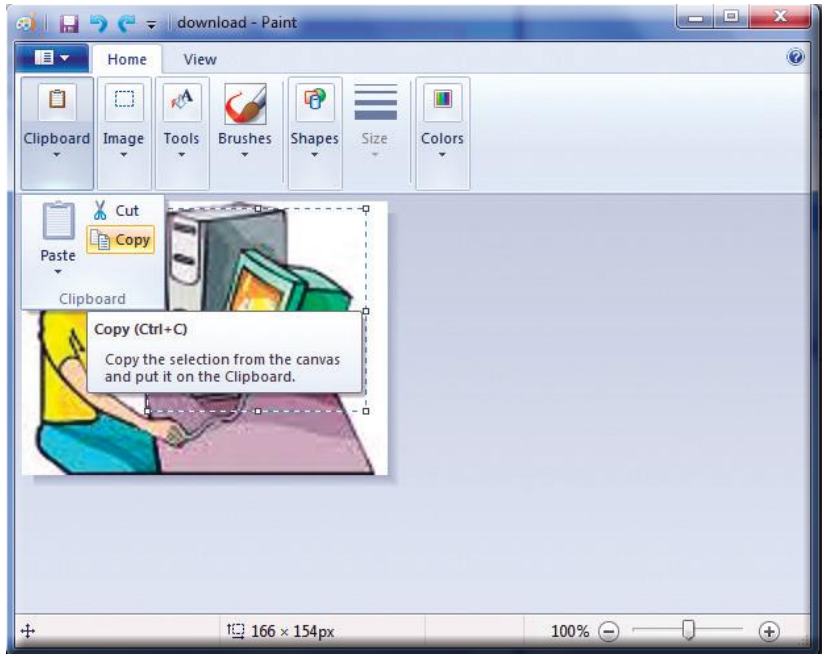
b. Click on ***Select***.

c. Select the image by dragging the mouse over it.

d. Click on ***Copy***.

e. Click on ***Paste***. The duplicate image appears in the drawing area.

f. Now place the mouse pointer on the selected image and drag it to anywhere in drawing area.



Cut and Paste

The Cut command removes the selected data from its original position. paste it at another place.

a. Click on ***Home tab***.

b. Click on ***Select***.

c. Select the image by dragging the mouse over it.

d. Click on ***Cut***.

e. Click on ***Paste***. The image appears in the drawing area.

f. Now place the mouse pointer on the selected image and drag it to anywhere in drawing area.

Zoom In and Zoom Out

The Zoom in and Zoom out is used to see a larger or smaller view of your image. For example, you might be editing a small part of it and need to zoom in to see it. Or the opposite might be true; your picture might be too large to fit on the screen, so you need to zoom out to view all of it.

In Paint, there are few different ways to zoom in or out, depending on what you want to do.

a. To increase the zoom level, on the ***View tab***, in the Zoom group, click ***Zoom in***.

b. To reduce the zoom level, on the ***View tab***, in the Zoom group, click ***Zoom out***.

c. To view the picture in the Paint window at its actual size, on the ***View tab***, in the Zoom group, click ***100%***.

Saving and Opening your picture

Save a picture for the first time

When you save a new picture for the first time, you'll need to give it a file name.

a. Click the ***Paint button***, and then click ***Save***.

b. In the ***Save as*** type box, select the file format you want.

c. In the ***File name*** box, type a name, and then click ***Save***.

Open a picture

Instead of starting with a new picture, you might want to open an existing picture and edit in Paint.

a. Click the ***Paint button***, and then click ***Open***.

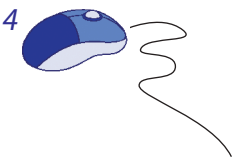
b. Find the picture you want to open in Paint, click it, and then click ***Open***.

Tricky Terms

Graphic software	:	A kind of software which is usually used to manipulate visual images or creating, editing and managing 2D computer graphics.
PAINT	:	A simple graphic program that you can use to create drawings on a blank canvas or on top of other pictures.
Flip command	:	The command used to create a mirror image of the picture either horizontally or vertically.
Crop tool	:	The tool used to crop a picture so only the part you selected appears in your picture.

Let Us Revise

- Graphic software is a kind of software which is usually used to manipulate visual images or creating, editing and managing 2D computer graphics.
- PAINT is a simple graphic program that you can use to create drawings on a blank canvas or on top of other pictures.
- The Color boxes indicate the current Color 1 (foreground color) and Color 2 (background color) colors.
- Resize command is used to change the size of the drawing by making it taller or shorter.
- Paint allows you to flip or rotate your drawing.



Chapter Review

1. Fill in the blanks. Choose the answer from the given words.

Clue Box

Pencil, Crop, Graphic software, Flip, Rectangle

a. _____is a kind of software which is usually used to manipulate visual images or creating, editing and managing 2D computer graphics.

b. The_____tool is used to draw straight, wavy and curved lines.

c. The_____tool is used for drawing rectangles or squares.

d. _____command is used to create a mirror image of the picture either horizontally or vertically.

e. The_____tool is used to crop a picture so only the part you selected appears in your picture.

2. Say True or False for the following statements.

a. PAINT is a simple graphic program that you can use to create drawings on a blank canvas or on top of other pictures.

b. The Eraser tool is used for drawing freehand drawings using coloured brush.

c. Resize command is used to change the size of the drawing by making it taller or shorter.

d. Rotate command is used to create a mirror image of the picture either horizontally or vertically.

e. The Zoom in and Zoom out is used to see a larger or smaller view of your image.

3. Answer the following questions.

a. What is a graphic software?

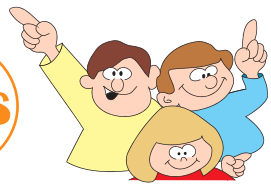
b. What is Resize and Skew commands used for?

c. What is the difference between Flip and Rotate command?

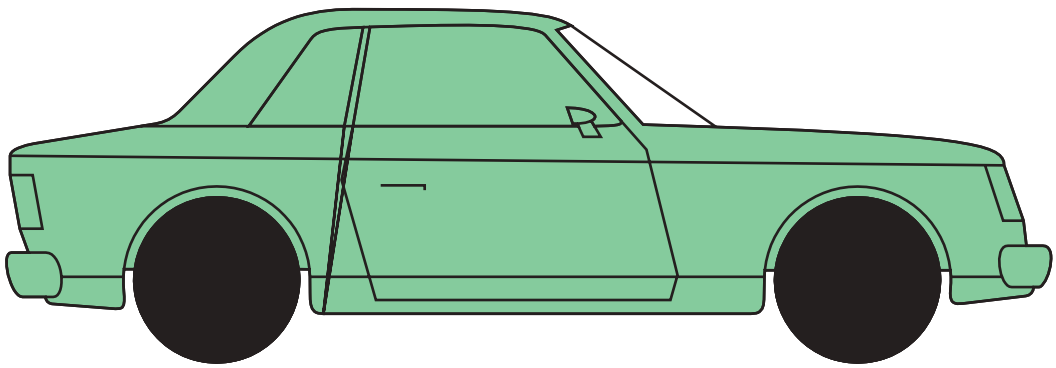
d. What is the difference between Copy and Cut commands?

e. Why do we use Zoom tool?

Lesson Labs



Visit your computer lab, open Paint and try to draw car:



a. Select any part of the drawing, cut and paste it in another place.

b. Flip and rotate the image.

c. Resize the image by making it taller.

d. Save and close the image.

Chapter 7

Microsoft Office Word 2010

Learning Objectives

- Define word processing and explain the importance of word processor.
- List the important advantages of Microsoft Office Word 2010.
- Explain the various steps to beautify a document.

An Overview

Word processing means using a computer to create, edit and print documents. These documents can be letters, reports, articles, essays, poems, etc. It allows you to:

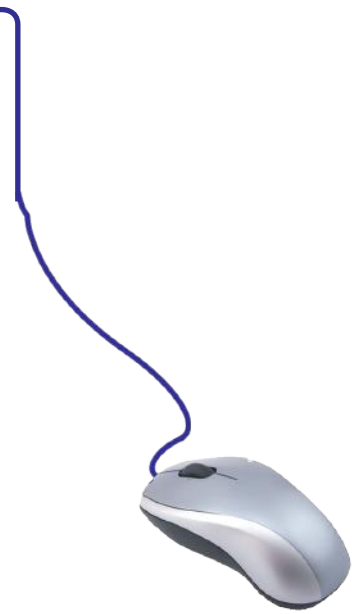
a. Write text-(letters, words, sentences or paragraphs.

b. Edit text - making corrections.

c. Format text - to change the style, colour and size of the text as required.

d. Save document - for use in future.

The most popular word processing software is Microsoft Word.



Microsoft Office Word 2010

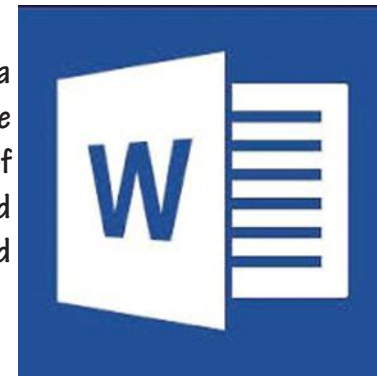
Microsoft Office Word 2010 is one of the most widely used software packages under Windows environment. It is developed by Microsoft Corporation, USA. It is a window based word processor which can create documents such as letters, memos, newsletters and brochures.

Microsoft Word has the following advantages:

- It allows to edit a document.
- It allows to change the appearance of the document.
- It allows you to insert clipart in a document.
- It allows you to set the margins.
- It allows to add borders and shadings in a document.
- It allows you to print text by using many of thousand typefaces, commonly called fonts.
- It creates customized letters to a form letter and a list of names and addresses.

expanding your horizons

Microsoft Office 2013 (formerly Office is a version of Microsoft Office, a productivity suite for Microsoft Windows. It is the successor of Microsoft Office 2010 and includes extended file format support, user interface updates and support for touch among its new features.

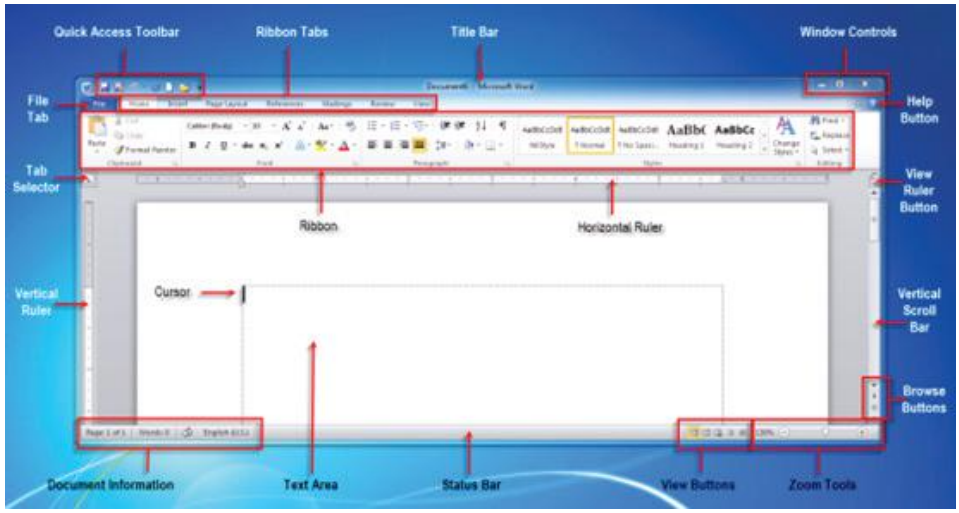


Starting Word 2010

Windows must be running to start Word. Follow the steps to open Word 2010.

- Click on the ***Start button***.
- Click on ***All Programs***.
- Click on ***Microsoft Office***.
- Click on ***Microsoft Word 2010***.

The Microsoft Word will appear. An empty document titled Document1 appears on your screen.



The major components of the default window are:

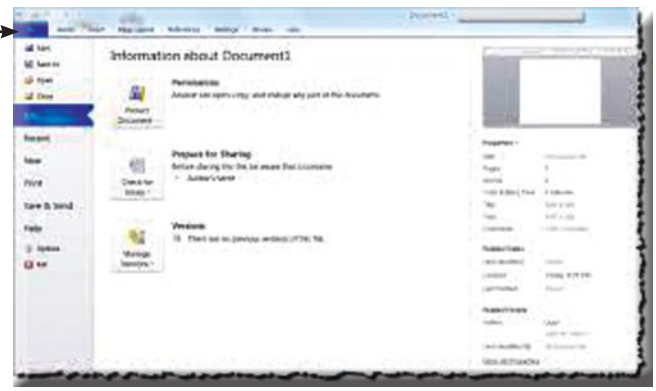
Title bar	The title bar displays the name of the program (Microsoft Word) and the active document name.
Quick Access Toolbar	The quick access buttons contains the options such as save, undo and redo.
File Tab	Under the Quick Access Toolbar, File Tab is at the left side and labelled as File. It contains the File menu option such as save, save as, open and close files.

Ribbon	It is an interface where a set of toolbars are placed on tabs in a tab bar.
Ribbon tab	Each tab provides a set of tools related to an overall task you are likely to be performing in a specific application.
Insertion Point	A blinking line on the working area of a window is an insertion point. It indicates the position where the text typed will appear.
Workspace	The workspace currently displays a blank document window, which is maximized and occupies the entire space.
Scroll bar	The scroll bar is used to show the different area of the active document.
Status bar	The status bar displays location information and the status of different settings as they are used.

Exploring a File Tab

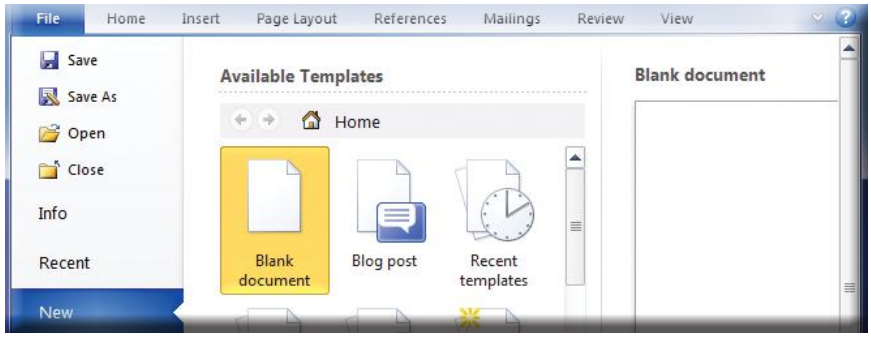
File Tab is main tab of Word 2010 that shows the Backstage view. Backstage view is a new feature in Word 2010. In the Backstage, the file information can be managed like save, share, print, protect and work with version information for document.

Click on ***File Tab***. A new screen will appear, displaying the most commonly used file management commands.



The Backstage panel that appears is organized in three panels: the left, center and right panel.

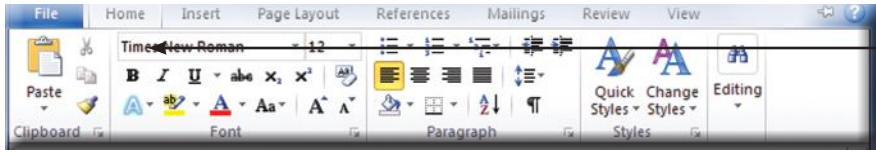
- The left panel shows the commands that are used to work with the files created.
- The center panel offers related options and,
- The right panel displays an additional options.



Ribbon

The ribbon offers an easy way to locate commands that accomplish various program tasks. The Ribbon is grouped into tabs, and each tab holds a set of related commands.

- Click on a ***tab***. The tab opens and organizes the tasks and commands into logical groups.
- Click on a button to activate a command or feature. Buttons with arrows displays additional commands.
- You can click on the corner arrow button to display a dialog box of additional settings.



Creating a New Document

When you start Word, it opens automatically a new document. This document has a name Document1. You can straight away start typing in the empty document window. If you have already started the Microsoft Word and wish to open a new document, you can perform the following steps.

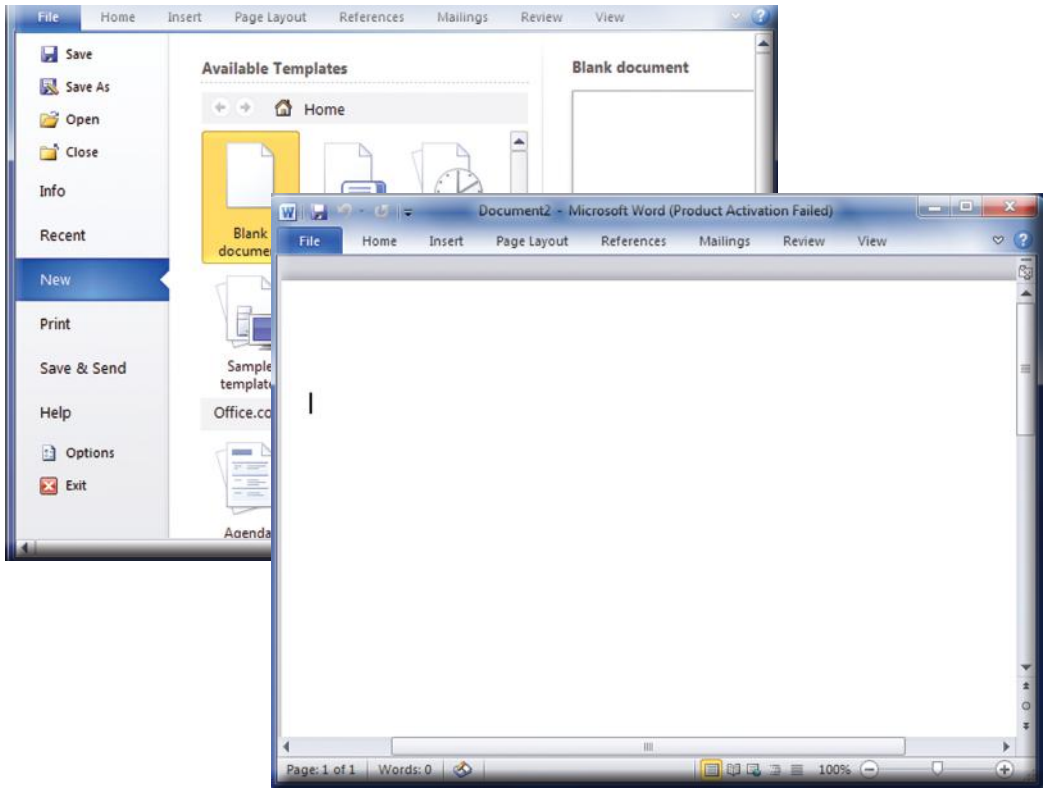
To create a new document, do the following:

a. Click on ***File tab***. Backstage view will appear.

b. Click on the ***New button***.

c. Click on ***Blank Document*** in the Templates list. Sample View of your selected document appears in this area.

d. Click on ***Create***. The new document file opens, and you can start adding your own data.



Entering the Text

When you start Microsoft Word, a blank document appears with the name Document1 in the title bar. You can begin typing in the empty document window. In a new document, the program places a blinking vertical bar in the upper left corner of the document window. As you type, the insertion point advances across the screen, showing you where the next character will be placed. When the insertion point reach the end of a line, Word automatically moves the text to the next line. This is known as word wrap. Press Enter to begin a new paragraph.

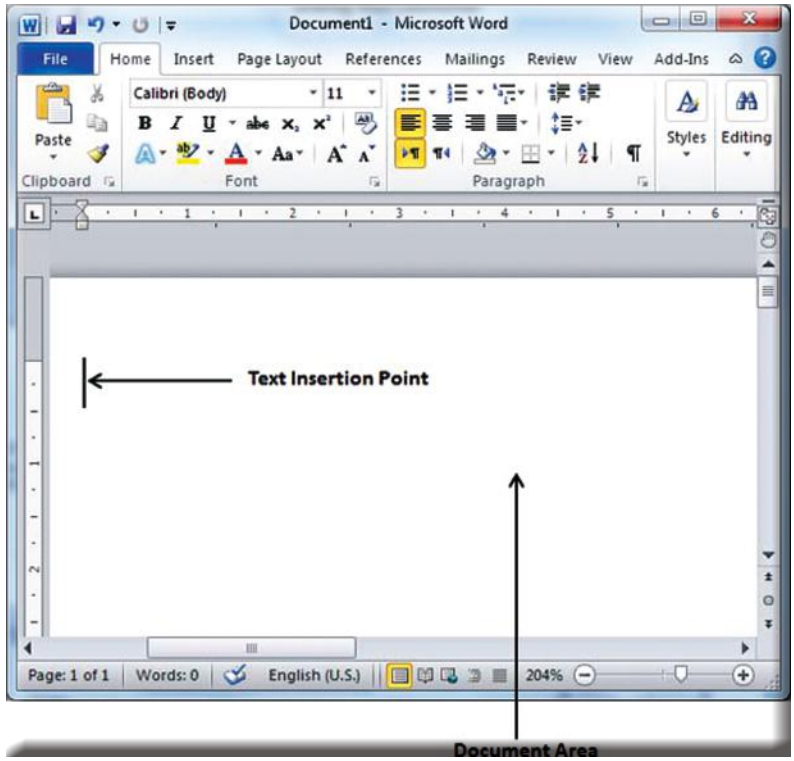
To enter the text, do the following:

a. Type the first line of text.

b. To start a new paragraph, press ***Enter***.

c. Type the remaining text.

d. Press ***Enter*** only when you want to start a new line or paragraph.

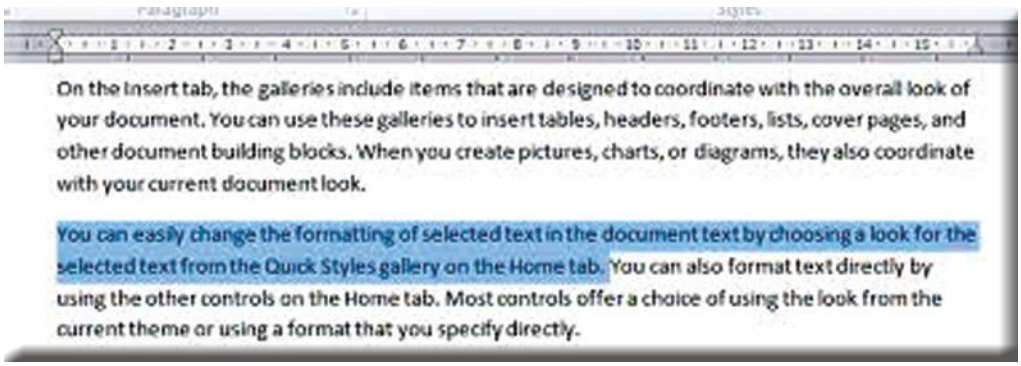


Selecting the Text

Microsoft Word requires the text selection before performing any operation on it. You can select a text by clicking it with a mouse or a keyboard. After selecting a text, you choose the action that you want to carry out on the text.

To select the text, do the following:

a. Place the cursor on the position from where you want to start selecting the text.
b. Press the left mouse button.
c. Drag the mouse over the text to be selected.
d. Release the left mouse button. The text gets selected.

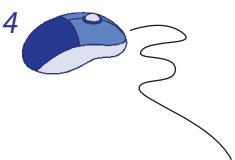


Editing the Text

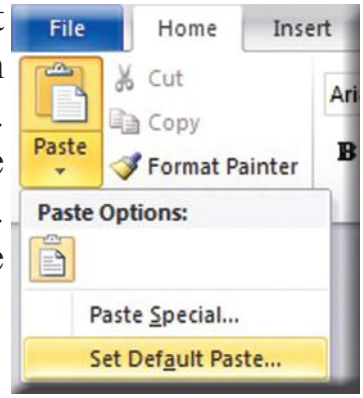
You can easily add new text to your document and remove text you no longer need.

To edit the text, do the following:

a. Click on the location where the text is to be inserted.
b. Type the text you want to insert.
c. Press Spacebar to insert a blank space.
d. Select the text you want to delete.
e. Press ***Delete key*** on your keyboard to remove the text.



Copying the Text



The Copy and Paste commands of Microsoft Word can be used to copy text from one location in a document and paste it to another location. The Copy command creates a duplicate of the selected text, leaving the original text unchanged. The Paste command pastes the copied text at the position where the cursor is.

To copy the text, do the following:

a. Select the item you want to move or copy.

b. Click ***Copy button*** on Clipboard panel of the Home tab.

c. Position the insertion point at the location where you want to paste the text.

b. Click ***Paste button***.

Moving the Text

You can move text from one position in a document to the other using the Cut and Paste commands of Word. The Cut command deletes the selected text from its original position. The Paste command then places this text at the position where the cursor is placed.

To move the text, do the following:

a. Select the item you want to move or copy.

b. Click ***Cut button*** on Clipboard panel of the Home tab.

c. Position the insertion point at the location where you want to paste the text.

d. Click ***Paste button***.

Fast Forward

Press CTRL + X for cutting the text and press CTRL + V for pasting the text.

Changing the Font Type

Microsoft Word provides you with a huge variety of fonts to use in your documents. Font refers to a set of characters with a specific design. The default font in Microsoft Word is Times New Roman. You can improve the appearance of your document by changing the design of characters.

To change font to the text, do the following:

a. Select the text you want to change to a different font.

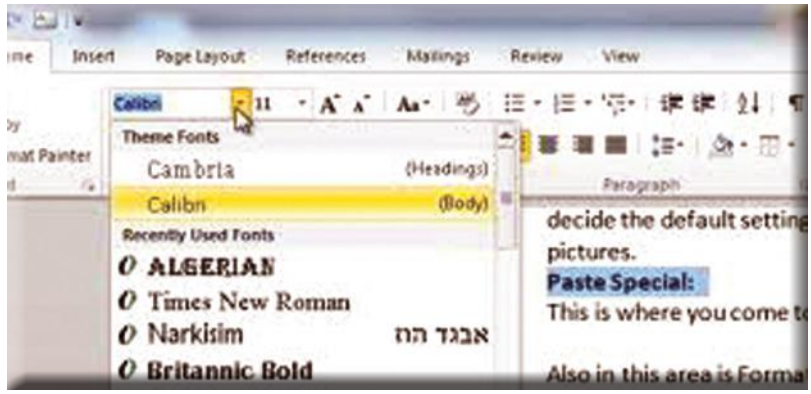
b. Click on ***Home tab*** on the ribbon.

c. Click on the down arrow of Font.

d. Click on the font you want to use.

The text you have selected changes to the new font.

To deselect text, click on outside the selected area.



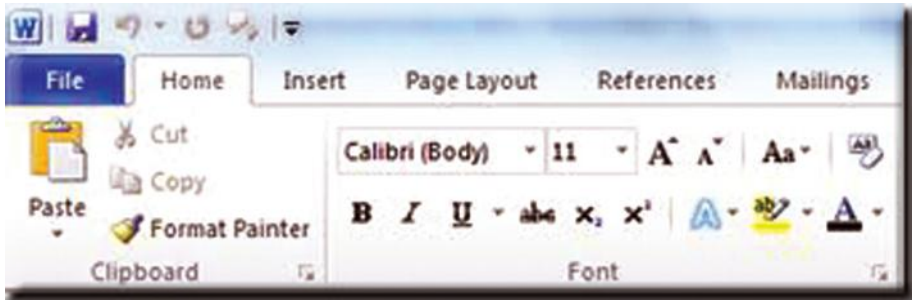
Changing the Size of the Text

Font size refers to the height and width of the characters. It is measured in points, abbreviated "pt". One point equals to 1/72 inch and the size of the text in most of the documents is 10 pt or 12 pt. You can increase or decrease the size of text in your document.

To change the size of text, do the following:

a. Select the text you want to change to a different font.

b. Click on ***Home tab*** on the ribbon.
c. Click on the down arrow of Font Size.
d. Click on the size you want to use.
The text you have selected changes to the new size.



Changing the Font Style

Microsoft Word offers different font styles such as bold, italic and underline. Bold character displays thicker and darker character than those that are not bold. Italicized text has a slanted appearance. Underlined text prints with an underscore (_) below each character. Underlining is used to draw attention to specific text. You can apply font styles to improve the appearance of the text.

To change the font style of text, do the following:

a. Select the text you want to change to a different font.
b. Click on ***Home tab*** on the ribbon.
c. Click on the down arrow of Font Style.
d. Click on any style. Word applies style to the text.

Fast Forward

Press CTRL + B for boldface,

CTRL + I for italic and CTRL + U for underline

Changing the Font Colour

If you have a colour printer or is going to share the document electronically, you can add impact by adding some colour.

To change the font colour, do the following:

a. Select the desired text.
b. Click on ***Home tab*** on the ribbon.
c. Click on the down arrow of Font Color.
d. Click on any color. Word applies color to the text.

Aligning the Text

Paragraph alignment refers to the way text is set with respect to the margins. There are four types of paragraph alignment styles. You can choose any one of the styles. These styles are: left alignment, right alignment, center alignment and justified.

To align the text, do the following:

a. Select the paragraph you want to align differently.
b. Click on ***Home tab*** on the ribbon.
c. Click on the down arrow of Font Color.

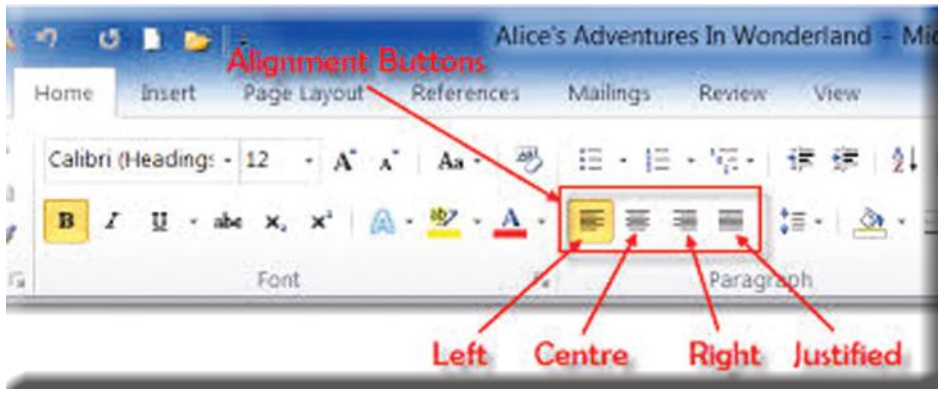
d. Click on one of the following buttons:

Click on the ***Align Left button*** to left-align the text.

Click on the ***Center button*** to center the text.

Click on the ***Align Right button*** to right-align the text.

Click on the ***Justify button*** to justify text between the left and right margins.



Inserting a ClipArt

ClipArt refers to the picture files that can be inserted into a document to make it more interesting and communicative. These picture files are available through the Clip Gallery feature of Microsoft Word. The Clip Gallery also includes sound clips, video clips and motion clips.

To insert a clipart, do the following:

a. Select the ***Insert tab***.

b. Click the ***Clip Art command*** in the ***Illustrations group***.

c. Enter keywords in the Search for: field that are related to the image you wish to insert.

d. Place your insertion point in the document where you wish to insert the clip art.

e. Click an image in the Clip Art pane. It will appear in the document.

f. You can also click the drop-down arrow next to the image in the Clip Art pane to view more options.

Inserting a WordArt

The WordArt feature is used to enhance your documents by changing the shape of text and adding special effects such as 3-D and shadows. You can also rotate, flip and skew WordArt text.

To insert a wordart, do the following:

a. Select the text you want to convert into the WordArt.

b. Click on ***Insert tab***.

c. Click on ***WordArt***. A list of options will appear.

d. Click on the WordArt style you want to use. The WordArt appears in the textbox in your document.

e. Click outside the text box to hide the text box.

Saving and Opening a document

A document created, must be saved into the memory of the computer for future use.

To save a document, do the following:

a. Click the ***File tab***.

b. Click ***Save As***.

c. In the File name box, enter a name for your document.

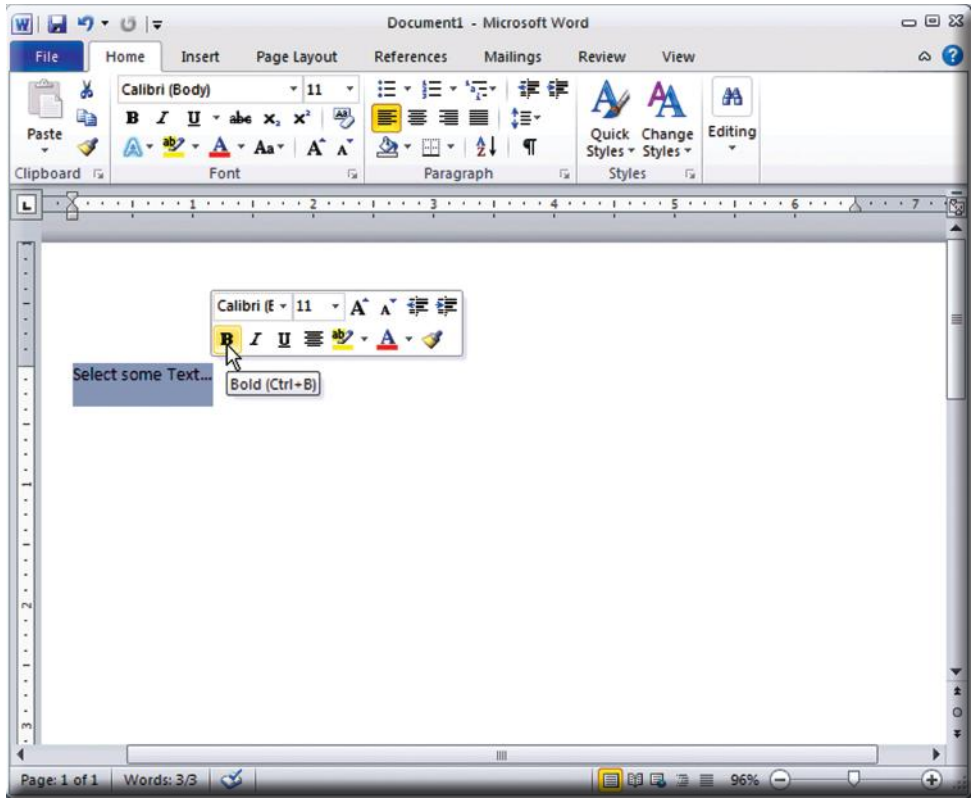
d. Click ***Save***.

Using Mini Toolbar

In Word 2010, a mini toolbar is available to get the quick access to common formatting command. A mini toolbar appears faintly whenever you select any text in the document. Its tools can be activated if you want to use this and if you don't want to use it, you can continue with your working.

To use mini toolbar, do the following:

a. Select the text you want to format. The mini toolbar appears faintly. You can also right-click over the selected text to display the toolbar.



b. Move the mouse pointer over the toolbar and click on the tool that you want to activate.

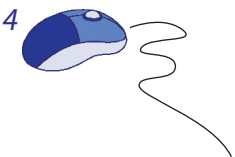
Word immediately applies the formatting.

Tricky Terms

Alignment	Refers to the way text is set with respect to the margins.
ClipArt	Ready made pictures.
Font	A set of characters with a specific design.
Word processor	A software which are used for word processing.
Word wrap	The automatic placement of word in the next line.

Let Us Revise

- Word processing software (also called a word processor) is an application software that provides extensive tools to create, view, edit, format, store and print text materials for human communication.
- Microsoft Office Word 2010 is one of the most widely used software packages under Windows environment.
- File Tab is main tab of Word 2010 that shows the Backstage view.
- The ribbon offers an easy way to locate commands that accomplish various program tasks.
- The Copy and Paste commands of Microsoft Word can be used to copy text from one location in a document and paste it to another location.
- Paragraph alignment refers to the way text is set with respect to the margins.
- In Word 2010, a mini toolbar is available to get the quick access to common formatting command.



Chapter Review

1. Fill in the blanks. Choose the answer from the clue box.

Clue Box

File Tab, Ribbon, Word processing, Microsoft Word, Paragraph alignment

a. _____is an application software that provides extensive tools to create, view, edit, format, store and print text materials for human communication.

b. _____is one of the most widely used software packages under Windows environment.

c. _____is main tab of Word 2010 that shows the Backstage view.

d. The_____offers an easy way to locate commands that accomplish various program tasks.

e. _____refers to the way text is set with respect to the margins.

2. Match each term with the statement that best describes it.

Font	Refers to the way text is set with respect to the margins.
Word processor	Ready made pictures.
Alignment	A set of characters with a specific design.
Word wrap	A software which are used for word processing.
ClipArt	The automatic placement of word in the next line.

3. Say whether these sentences are True or False.

a. Ribbon is an interface where a set of toolbars are placed on tabs in a tab bar.

b. The status bar is used to show the different area of the active document.

c. The Copy and Paste commands of Microsoft Word can be used to copy text from one location in a document and paste it to another location.

d. The default font in Microsoft Word is Arial Black.

e. Paragraph alignment refers to the way text is set with respect to the margins.

4. Answer the following questions.

a. What is a word processing software? Name some popular word processing software.

b. List any five advantages of Microsoft Office Word 2010.

c. What is insertion point?

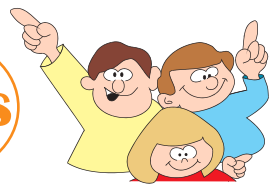
d. What is a file tab?

e. What is the difference between moving and copying the text?

f. What is paragraph alignment?

g. What is the use of mini toolbar?

Lesson Labs



Open a new file in the Word 2010 and type a short story. Now perform the following formatting options.

a. Bold and center the title "Fairy Tale".

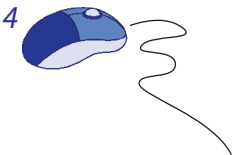
b. Change the title font to a font of your choice to 18 points.

c. Add a colour of your choice to the title text.

d. Change the font of entire document to Times New Roman.

e. Save the document as Fairy Tale.

f. Close the document and exit Word 2010.



Chapter 8

Introduction To QBASIC Programming Languages

Learning Objectives

- Define a QBASIC.
- Identify the special features of QBASIC.
- Creating a program using QBASIC Editors.
- QBASIC Interface
- Elements of QBASIC Programming.
- Explain the function and syntax of simple QBASIC Statements.

An Overview

The computer cannot think and make any decision on its own. It needs instructions to perform any task. A computer needs instructions in a language that it can understand. Such language is known as programming language. There are various types of programming languages. Basic is one of the programming languages, which stands for Beginners' All Purpose Symbolic Instruction Code. It was developed in 1964 at Dartmount College, U.S.A. by Professor John Kemeny and Thomas Kurtz. It allows the usage of simple English like statements and mathematical operators. There are various versions of BASIC like TURBO BASIC, GW-BASIC and QBASIC.

Starting and QBASIC Program

QBASIC is a high level computer programming language developed by Microsoft Company.It is more powerful programming language than otherTURBO BASIC and GW BASIC programming language.It has a powerful pull-down menu that can be driven by keyboard or mouse. It is easier for writing ,editing, running and debugging program.It can be used for scientific as well as commercial application.

Feature of QBASIC

QBASIC has many features some of the interesting features are given below:-

- QBasic is a high level language.
- It supports mouse and keyboard.
- Easy to learn and understand.
- It is easy to correct errors.
- QBasic editor checks syntax errors and capitalized QBasic reserved words.

Creating a Program Using the QBASIC Editor

The QBASIC interpreter software is needed to develop program using QBASIC language. You can start QBASIC from within windows or from DOS prompt:-

To start QBASIC from within windows follow these steps

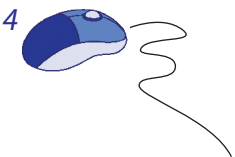
Step 1: Locate the QBASIC folder.

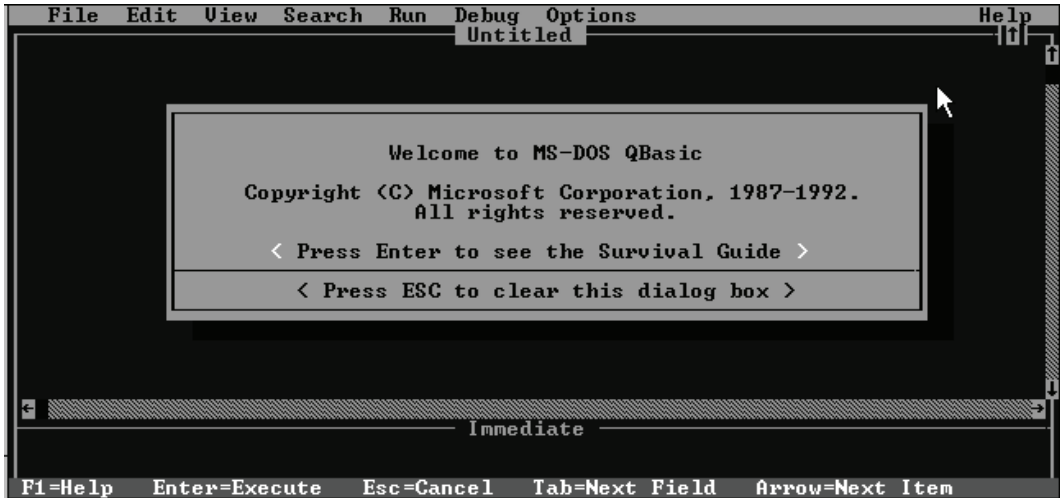
Step 2: Double click on the QBASIC folder.

Step 3: Double click on the QBASIC or QB icon

Step 4: Press the ESC key to clear the dialog (Welcome) box.

Step 5: Start typing your program.





To start QBASIC from the DOS prompt follow these steps

Step 1: open the Command prompt or DOS prompt.

Step 2: Go to the QBASIC directory using CD command.

C:\ CD QBASIC (then press inter key)

Step 3: Type QBASIC

C:\ QBASIC> QBASIC (then press inter key)

Step 4: Press the ESC key to clear the dialog (Welcome) box.

Step 5: Start typing your program.

Note:- *Press Alt+ Enter key to increase the size of QBASIC window that fills the entire screen. Again, press Alt+ Enter key to reduce the size of maximized QBASIC window.*

QBASIC Interface/parts

QBASIC The QBASIC interface has the following parts:-

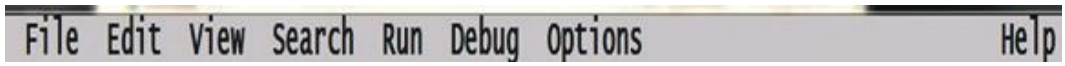
1. Title bar
2. Menu bar
3. Current program
4. Name of the current program

5. Window to immediately execute a command
6. Status bar
7. Status of Caps Lock and Num Lock
8. Current line of cursor
9. Current column of the cursor

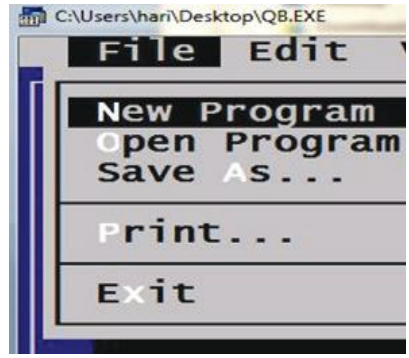
1. Title bar:-

The horizontal bar located at the top most part of the window is called Title bar. It shows the name of the program in which you are presently working. There are Minimize, Maximize and close buttons on the right side of the title bar.

2. Menu bar:-



Menu bar lies below the title bar, it contain several menus like File, Edit, Search, Run, Debug, Options and Help. Each menu contains the different sub menu. The different sub menu of the menu is described below:-



File:

New- Clears the Current Program

Open- Loads a program from a disk

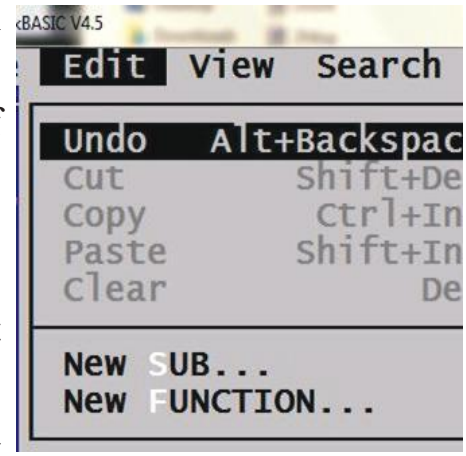
Save- Saves the current program to the disk

Save As- saves the program, under a different name at different location.

Print- Prints the selected text, current window, or entire program

Close the QBasic Interpreter

Edit:



Cut- Removes the selected text and saves it in the clipboard.

Copy- Copies the text instead of removing it

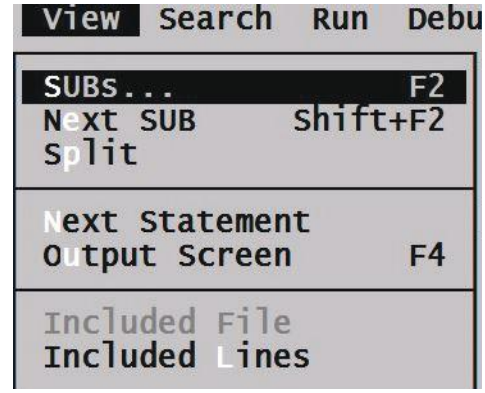
Past- Add the text in the clipboard to the current position of the curser.

Clear-Removes the text without storing it to the clipboard.

New Sub- Enables you to create a new subroutine.

New Function- Enables you to create a new function

View:



SUBs-Shows the list of the current subrotines and functions.

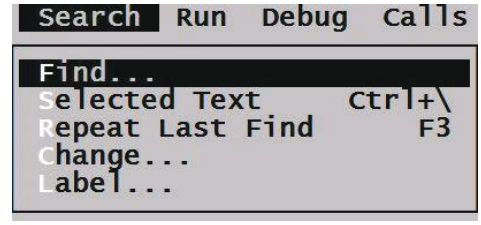
Next SUB-It shows the sub module

Split-Displays the contents of the current programs in two windows. If the window is already split, this hides the second window.

Next Statement-It display the next statements

Output Screen-Shows the QBasic output screen.

Search:



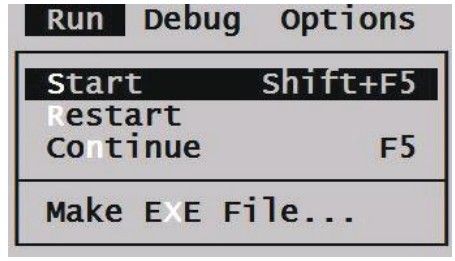
Find- Allows you to search for string of the text in the program.

Select text- It helps to select the text.

Repeat Last Find-Continues the previous search operation.

Change- Replaces each instance of a string with another string.

Run:

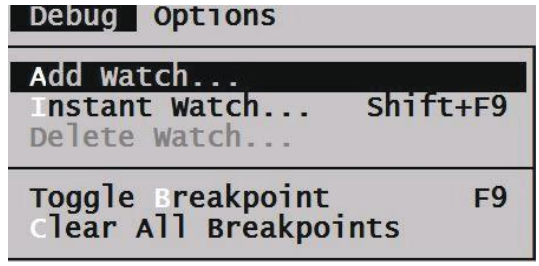


Start- Execute the current program

Restart- Again Start from the beginning

Continue- Continues execution at the current position .

Debug:



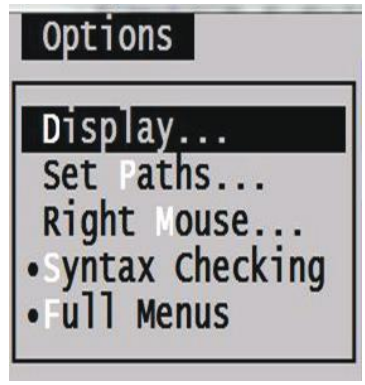
Add Watch..- It helps to add watch window

Instant watch...-

Toggle Breakpoint- Sets or removes a breakpoint. Using this QBasic interpreter stop when it reaches a specified line in the program.

Clear All Breakpoint- Removes all breakpoints in the program.

Options:



Display- Enables you to change foreground and background colors, the number of space to use for tabs, and whether or not scroll bars are visible.

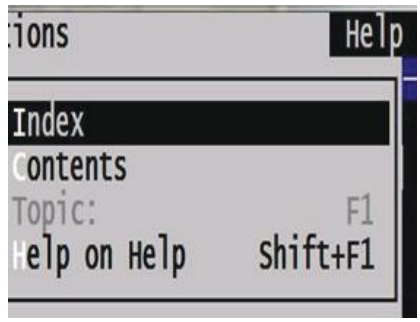
Set paths.. - It helps to set the path with extension of the file.

Syntax Checking- Allows you to have the

QBasic editor check the syntax of your program as you type.

Full Menus- Helps to show all the menus on the screen of QBasic.

Help:



Index- lists of all QBasic commands, keywords and operators.

Contents- The table of contents for QBasic help

Topic- Show help for a specific keyword

Help on Help- Shows information on using QBasic help

3. **Current program: -** The current program is displayed in the middle of the screen, and covers most of the QBasic interface.
4. **Name of the current program:-** The file name of the current program is displayed near the top of the screen in the center. You can change the name by selecting "Save As" on the "File" menu.
5. **Window to immediately execute a command:-** The immediate window is located just below the view window and it's used to execute statements as soon as they are entered. This window is often used as a calculator and a debugging tool. You can activate this window by pressing the F6 key and you can return to the view window by pressing the F6 key again.
6. **Status bar:-**The status line is located across the very bottom of the window and it displays a list of the most frequently used function keys. It will also indicate whether you have the CAPS LOCK key on, current line and current column.
7. **Status of Caps Lock and Num Lock:-** If Caps Lock is set a "C" is displayed on the right side of the status bar. If Num Lock is set "N" is displayed on the right side of the status bar.

8. **Current line of Cursor:-** On the right side of the status bar, the current line of the cursor is displayed.
9. **Current column of the cursor:-** On the right side of the status bar, the current column of the cursor is displayed.

Creating a New program File

To create a new program file you should follow the following steps:

Step1 : Click on File menu and click on the New program command as shown in figure.

Writing a First Program

You can directly write a program in the QBasic screen by following QBasic protocol:-

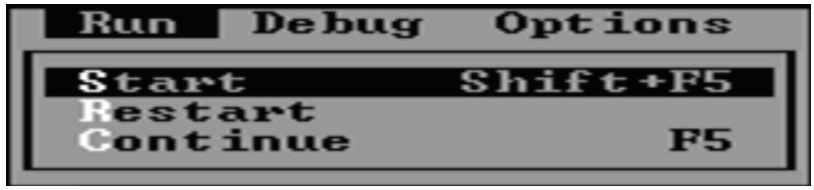
PRINT " wel come to you in QBasic programming";

Running or Executing the Program

After writing a program code, it should be executed to get the output.

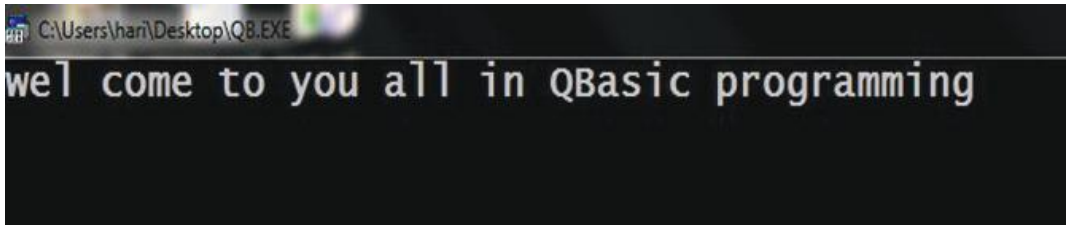
Step1 :- Open the Run menu.

Step 2 :- Select the Start command.



Or use the short cut key i.e. press F5 keys from Keyboard

This is the output screen of above coding:-



Saving a Program

QBasic allows you to save the current program onto the disk for future use. To save your tasks go through the following steps:-

Step 1 :- Click on the file menu and then click on the save as command.

Then a save dialog box appears.

Step 2:- Type the file name on the File Name Box

Step 3:- Click on OK button.

Note

While giving the file name we should considered the following points.

- *The file name should begin with an alphabet.*
- *Any special characters are not allows in the file name.*
- *The file name can be given up to 8 characters long.*
- *The blank space is not allows in the file name.*
- *The extension of QBasic file is BAS it will appears automatically.*

Opening the Saved Program

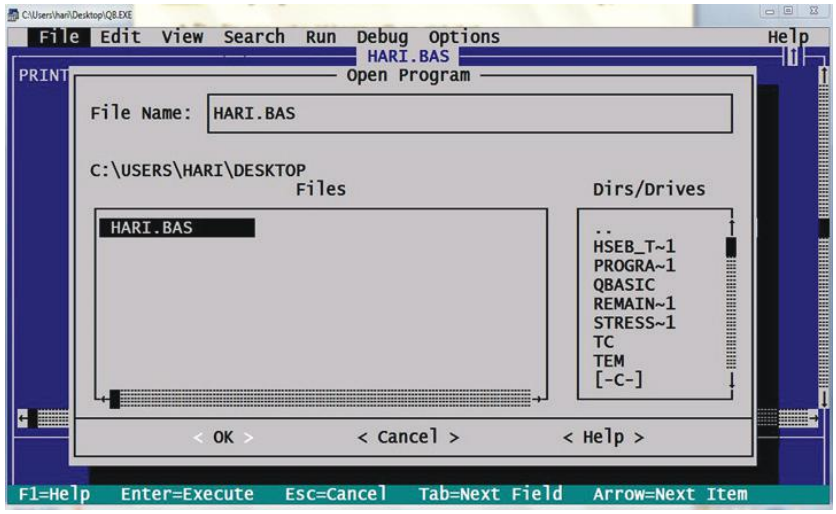
To open your saved tasks go through the following steps:-

Step 1:- Click on the file menu and then click on the Open program command

Then a Open dialog box appears.

Step 2:- Type the file name on the File Name Box

Step 3:- Click on OK button.



Brainstorming task

Fill in the blanks.

a. _____ is a set of instruction that performs specific task in the computer.

b. BASIC was developed by _____ in _____ A.D

c. QBASIC is _____ level programming language.

d. BASIC stands for _____ .

e. To save the program _____ key is pressed.

f. To run the program _____ key is pressed.

Elements of QBASIC Programming

The important elements of QBASIC programming consists of the character set, variables, constants, operators, expressions keywords.

Character Set

The character set is a set of symbols used to frame the various components of a program. The character set consists of digits, letters and special characters that are valid in QBASIC. The character set includes:

Alphabets	:	A to Z (small and capital letters)
Numbers	:	0 to 9
Special characters	:	; = + -* / ^ ( ) % $ #! , .’ “ :& ? < > \ - b (Note: The symbol b denotes a blank space.)

Variables

Variables are programmer-defined areas in the computer memory for storing data. When programmers talk of computer memory, it is usually RAM to which they are referring. All variables are created in RAM. The data stored in a variable can change during the execution of the program.

Variable-Naming Conventions

Variable names need to follow certain rules and standard naming conventions of QBASIC. Given below are certain points to remember when naming a variable:

- The names may be up to 40 characters long.
- The characters allowed in a variable names are letters, numbers, the decimal point and the special type declaration characters ($, %, #, &, and !).
- The first character in the variable name must be a letter.
- Reserved words of QBASIC cannot be used as variable names.

Types of Variable

Variables are of two types - numeric variable and string variable depending on the kind of data item they represent.

- *Numeric Variable*

  A numeric variable has a number as its value. It must begin with an alphabet and the remaining characters, if used, may be alphabets or digits or both. The valid numeric variables are A2 and B.

- *String Variable*

  The string variable has a character or string of characters as its value. It must begin with an alphabet and end with a dollar($) sign. The valid string variables are A$, B3$, C$ and TL$.

Constants

Constants are data items whose values do not change while the program is running. There are two types of constants: numeric constant and string constant.

- *Numeric Constant*

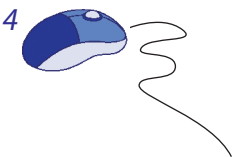
  Numeric constants are positive or negative numbers on which mathematical operations such as addition, subtraction, multiplication and division can be performed. Numeric constants should not contain commas. The valid numeric constants are 150, -980, +76 and 129.

- *String Constant*

  A string constant is a set of alphanumeric or special characters enclosed within double quotes. Blank spaces can also be used in a string. The valid string constants are “Fun with BASIC” and “Enjoy Programming”.

Solved Example

```
A = 20          'A is a numeric variable and 20 is a numeric constant"
PRINT A
END
```

Operator

An operator is a symbol representing the operations they perform on operands in a program. The values on which the operator's work are referred to as operands. It is used to compute, compare values and test multiple conditions.

The operators in QBASIC are classified as follows:

a. Arithmetic operators
b. Relational operators
c. Logical operators
d. String operator

a. Arithmetic Operators

Arithmetic operators are used to perform various mathematical operations. The general format of arithmetic operator is:

operand1 arithmetic_operator operand2

The arithmetic operators supported by QBASIC are:

Operator	Name	Example
+	Addition	A + B
-	Subtraction	A - B
*	Multiplication	A*B
/	Division	A/B
\	Integer Division	A\B
Mod	Modulus	A mod B
^	Exponential	A^B

Solved Example

```
REM "The program to illustrate the use of arithmetic operators"
a = 15 : b = 5
PRINT "The difference is=";a-b
PRINT "The sum is=";a+b
PRINT "The product is= ";a*b
PRINT "The quotient is= ";a/b
END
```

b. *Relational Operators*

Relational operators are used to compare two values of same type, either both numeric or both string. The general format of relational operator is:

operand1 relational_operator operand2

The relational operators supported by QBASIC are:

Operator	Name	Example
=	Equal	A=B
<	Less than	A<B
>	Greater than	A>B
<=	Less than or equal to	A<=B
>=	Greater than or equal to	A>=B
<>	Not equal to	A<>B

b. *Logical Operators*

Logical operators are used to connect two or more relational expressions to evaluate a single value as True or False. The general format of logical operator is:

operand1 logical_operator operand2

The logical operators supported by QBASIC are:

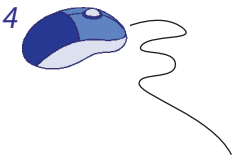
Operator	Name	Example
AND	Evaluates to true when both conditions are true	A > B AND A > C
OR	Evaluates to true when one or both conditions are true	A > B OR A > C
NOT	Makes a true expression false, and a false expression true.	A NOT B

Solved Example

Assume x=5 and y=6. What will be stored in result in each of the following statements?

Expression Result

(x<7) AND (y>7) True AND False => False



a. String Operator

The joining of two or more strings is called concatenation of strings. The strings are connected by the string operator, which is the plus sign (+). For example, the statement:

PRINT "KATH" + "MANDU"

would cause QBASIC to display the following string.

KATHMANDU

First Look at QBASIC statements

A statement is a group of BASIC keywords generally used in program lines as part of a program. These statements are first stored in the memory of the computer and executed only when the command RUN is given. It is either executable or non-executable. Executable statements are program instructions that tell BASIC what to do during the execution of a program. Non-executable statements do not cause any program action. In this section, we shall discuss simple programming statements.

REM statement

The REM statement is the short form of 'remarks'. The computer ignores anything following the word REM and it is used to put explanatory notes in the program. You may use a single quotation mark (') instead of REM. The general form of the REM statement is:

REM <Any Text>

Solved Example

```
REM  "My first QBASIC program"
LET price = 200
LET tax = price * 25 / 100
PRINT "The sales tax is::"; tax
END
```

CLS statement

The CLS statement clears the screen. It is used whenever a fresh screen is desired during the program execution. The general form of the CLS statement is:

CLS

Solved Example

```
CLS
PRINT "Programming is great fun"
END
```

LET statement

The LET statement is used for storing a value in a variable. The word LET is optional, i.e., the equal to sign is sufficient when assigning an expression to a variable name. The general form of the LET statement is:

LET <variable> = <variable or constant or expression>

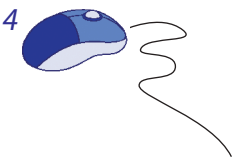
Solved Example

```
REM "Program to find the sum of two numbers"
LET a = 20
LET b = 30
Sum = a + b
PRINT "The sum of the two numbers::: "; Sum
END
```

INPUT statement

The INPUT statement is used to accept input from the keyboard during program execution. It facilitates the use of same program for various sets of data to obtain different results in different executions. The general form of the INPUT statement is:

INPUT <"message"> ; variables



Solved Example

```
REM "This program finds the area of a rectangle"
CLS
INPUT "Enter the length of a rectangle"; l
INPUT "Enter the width of a rectangle"; w
Area = l * w
PRINT "The area of the rectangle is:::"; Area
END
```

PRINT statement

The PRINT statement is used to display data or the results of calculation on the screen. Question mark (?) may be used in place of the word 'PRINT'. The general form of the PRINT statement is:

PRINT <variable, constants or expressions>

Print Positions

BASIC divides the line into print zones of 14 spaces. The position of each item displayed on the screen is determined by the punctuation used to separate the items in the list. The separator and print position is described below:

Separator	Print Position
,	Zone wise
;	Side by side
space(s)	Immediately after the last value

END statement

The END statement denotes the end of the program. Once the program encounters the END statement, the computer stops processing any further as it has reached the termination point. It must be written as the last statement in every program. The general form of the END statement is:

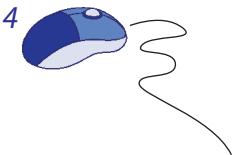
END

Tricky Terms

QBASIC	:	A high level computer language developed by Microsoft in 1985.
Character set	:	A set of symbols used to frame the various components of a program.
Variables	:	The programmer-defined areas in the computer memory for storing data.
Constants	:	The data items whose values do not change while the program is running.
Operator	:	A symbol representing the operations they perform on operands in a program.

Let Us Revise

- QBASIC is a high level computer language developed by Microsoft in 1985.
- The character set is a set of symbols used to frame the various components of a program.
- Variables are programmer-defined areas in the computer memory for storing data.
- Constants are data items whose values do not change while the program is running.
- An operator is a symbol representing the operations they perform on operands in a program.
- The joining of two or more strings is called concatenation of strings.
- A statement is a group of BASIC keywords generally used in program lines as part of a program.

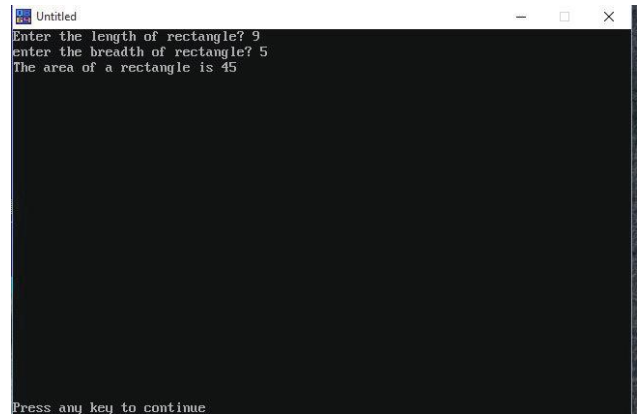


Solved Exercise

A. Write a program that calculates the area of rectangle.

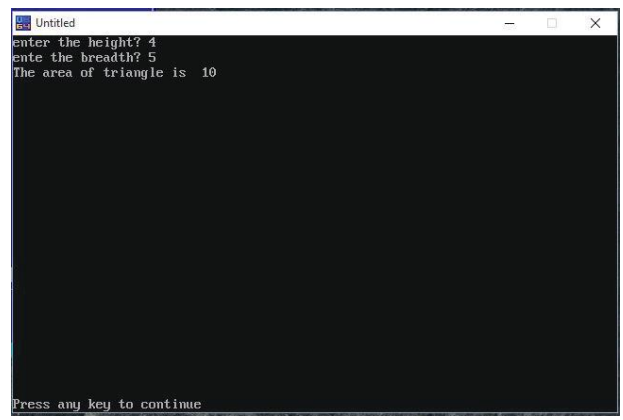
Program code:-

```
CLS
INPUT "enter the length of rectangle";L
INPUT "enter the breadth of rectangle";B
A = L * B
PRINT "The area of a rectangle is";A
END
```



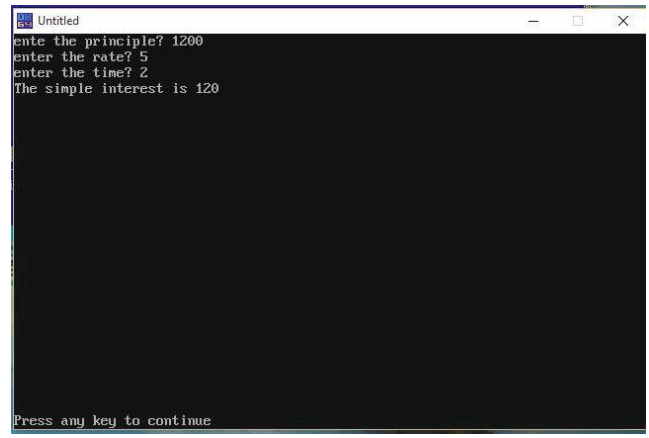
B. Write a basic program to input the height and base and find out the area of triangle.

```
CLS
INPUT "enter the height";H
INPUT "ente the breadth";B
area = 1 / 2 * (H * B)
PRINT "The area of triangle is"; area
END
```



C. Write a program to calculate the simple interest.

```
CLS
INPUT "enter the
principle";p
INPUT "enter the rate";r
INPUT "enter the time";t
si = (p * t * r) / 100
PRINT "The simple
interest is";si
END
```



Chapter Review

1. Fill in the blanks.

Clue Box

PRINT, INPUT, CLS, REM, LET

a. _____ is used to put explanatory notes in the program.

b. _____ is used whenever a fresh screen is desired during the program execution.

c. The_____ statement is used for storing a value in a variable.

d. The_____ statement is used to accept input from the keyboard during program execution.

e. The_____ statement is used to display data or the results of calculation on the screen.

2. Match the followings.

Variables	A high level computer language developed by Microsoft in 1985.
Operator	A set of symbols used to frame the various components of a program.
QBASIC	The programmer-defined areas in the computer memory for storing data.
Character set	The data items whose values do not change while the program is running.
Constants	A symbol representing the operations they perform on operands in a program.

3. Say whether these sentences are True or False.

a. BASIC allows the usage of simple English like statements and mathematical operators.
b. The numeric variable must begin with a number and the remaining characters, if used, may be alphabets or digits or both.
c. Reserved words of QBASIC cannot be used as variable names.
d. The string constant is a set of alphanumeric or special characters enclosed within single quotes.
e. Operator is a symbol representing the operations they perform on operands in a program.

4. Answer the following questions.

a. What is a BASIC program? Who developed BASIC?
b. What are the important elements of QBASIC programming language?
c. What are variables and constants?
d. Differentiate between a numeric variable and a string variable.
e. What are operators? State the rules of logical operators.

5. Write BASIC expressions for the following algebraic expressions:

a. $y = 6x$
b. $a = 2b+5c$
c. $y = x^2$
d. $nr^2 + KT$
e. $(F - 32)^2$
f. $a^2 + b^2$

6. Let x = 5, y = 8 and z = 10. What will be the value stored in result in each of the following statements?

a. r = x + y - z
b. r = (x * y) MOD z
c. r = z*y/x
d. r = (x+y)/z
e. r = (y/x)*z

7. Examine the following program.

```
a = 2
b = 3000
PRINT "The first number is ";a
PRINT "The second number is ";b
END
```

List all the variables and constants that appear in the above program.

LAB SECTION

a. Create a new program file and type the following program code.

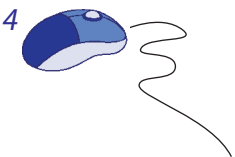
```
CLS
PRINT "WEL COME To YOU ALL";
END
```

i. Run this program.
ii. Save the program with appropriate file name.
iii. Close the program
iv. Open the same file which you saved.

b. Write a QBASIC program to display your name in QBASIC Screen.

c. Write a program that calculates the area of rectangle. Hints Area=L×B

d. Write a program that calculates the volume of your class room. Hints volume = L×B×H



Typshala

Introduction

Touch typing is a commonly used system, which enables you to type quickly and accurately without looking at the keys. In order to know where your fingers are without looking, you must keep them positioned over their home keys, in the middle row of the keyboard.

Typshala is a typing tutor that provides free hand typing and entertains the user with a game.

To start typshala, follow these steps:

a. Click on Start.

b. Click on Typshala. Typshala program appears on the screen.

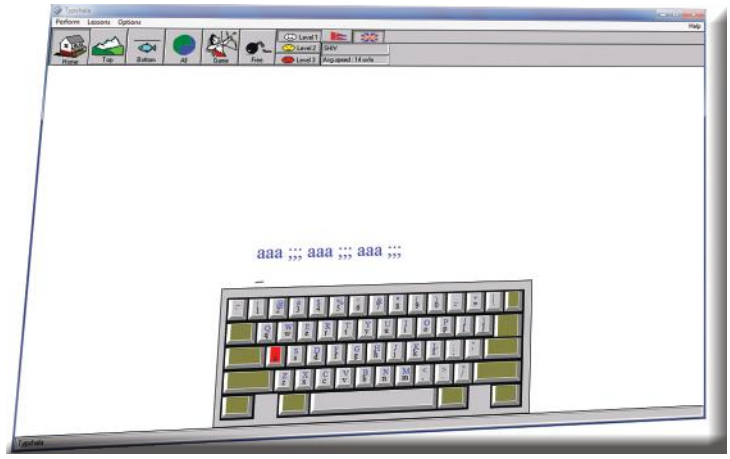
c. Click on Home.

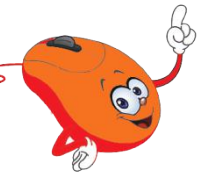
d. Choose 'Level 1'.

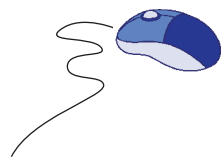
e. Click on OK.

f. Choose writing script.

g. Start typing.







Lesson Exercise

a. Choose English Script from the Options menu.

b. Choose Lessons | Home Row | Level 1. Now, start typing

aaa ;;; aaa ;;; aaa ;;;

c. Choose Lessons | Home Row | Level 2.

kjg kjg kjg kjg kjg kjg

d. Choose Lessons | Home Row | Level 3.

Lass Gas Salad Dallas

Lesson Exercise 2

a. Choose English Script from the Options menu.

b. Choose Lessons | Top Row with Home Row | Level 1. Now, start typing

rfgf rfgf rfgf hu hu hu

c. Choose Lessons | Top Row with Home Row | Level 2

la!fkg la!fkg la!fkg

d. Choose Lessons | Top Row with Home Row | Level 3

left out type @(at the

Lesson Exercise 3

a. Choose English Script from the Options menu.

b. Choose Lessons | Bottom Row with Home Row | Level 1. Now, start typing

f] agf/; b"Mv /ftf] /fhf

c. Choose Lessons | Top Row with Home Row | Level 2

/fzL /fzL /fzL /fzL bfzL

d. Choose Lessons | Top Row with Home Row | Level 3

bulb nab, ban, mob, bun,