

Meet Your Computer

Objectives

At the end of this session, you will be able to:

- Describe what a computer is
- Devices that comprise a Computer System.
 - Input Devices
 - Output Devices
 - Memory Devices
- Benefits and Limitations of Computers
- Different Types of Computer Systems
- Program and Software

What is Computer

- ☞ Computer is an electronic device, it can performs arithmetic, logical operations and it can store large amount of data.
- ☞ It is indispensable in every walk of life in this era of Information Technology.
- ☞ It is used to:
 - Perform calculations
 - Create various type of Documents
 - Maintain Database
 - Analyze Data
 - Create and transfer information
 - Plan and design in various applications
 - Banking and other online services



Benefits and Limitations of Computers

Benefits of Computers

- High Speed
 - Ability to perform tasks at a greater speed than human beings.
 - Perform complex calculations in seconds.
- Accuracy
 - Perform tasks with accuracy.
 - Input given to the computer determines the output received.

Benefits of Computers

- Storage

- Can store large amounts of information.
- Retrieve information whenever required.

- Automation

- Can be instructed to perform tasks automatically.

- Diligence

- Can perform the same task repeatedly, without getting tired.
- Can do the same job with the same accuracy for longer hours.

Benefits of Computers

- **Versatility**
 - Can be used to perform simple as well as complex tasks.
- **Cost effective**
 - Reduce the amount of paperwork and human effort, thereby reducing costs.

Limitations of Computers

- Computers cannot work independently.
- No Decision making power.
- They need clear and complete instructions to perform a task accurately.

The Personal Computer

The Personal Computer

- Referred to as a PC
- Designed to be used by one individual at a time.
- Used for applications, such as accounting, statistical analysis and graphic design.
- Not suited for complex applications that require large storage capacities involve complex mathematical calculations.

The Personal Computer

Personal computers can be classified into

- Stationary computers:
 - Include desktop and tower computers.
- Portable computers:
 - Include laptops, handheld computers and Tablet PCs.

Desktops and Towers

- Desktops - Can be placed on top of desks or tables.
- Towers - The system unit can be placed under the desk.
- All stationary computers are referred to as desktops.



Laptops and Notebooks

- Small portable computers
- Modern laptops are often called notebook computers
- Can operate on batteries
- IBM, Apple, Compaq, Dell, Toshiba and Hewlett-Packard are well known manufacturers



Tablet PCs

- A type of notebook computer.
- Has a Liquid Crystal Display (LCD) screen.
- Allows the user to take notes on the screen by using a special pen.
- User's handwritten content can be edited and shared by using e-mail.



Handheld Computers

- Small portable computers designed to fit in your pocket
- Designed to facilitate everyday functions,
 - Using a calendar
 - Maintaining an address book
 - Used to maintain notes, task lists and details of appointments



Hardware Components of Computer

Devices that comprise a computer are as follow



IPO

Input
Process
Output

Input Devices

Important input devices are

- Mouse
- Keyboard
- Scanner
- Microphone
- Web camera

Mouse

- Used to point to and select options displayed on the screen
- May have two or three buttons
- Left button is the most frequently used button
- Optical mouse is a pointing device that detects movement by sensing changes in reflected light



Keyboard

There are different types of keys on the keyboard:

- **Alphanumeric keys**
 - They include letters and numbers
- **Punctuation keys**
 - They are the colon (:), the semicolon (;), the question mark (?), single quotes (') and double quotes (“
- **Special keys**
 - They are Arrow keys, Control keys and Function keys (F1 to F12)

Keyboard

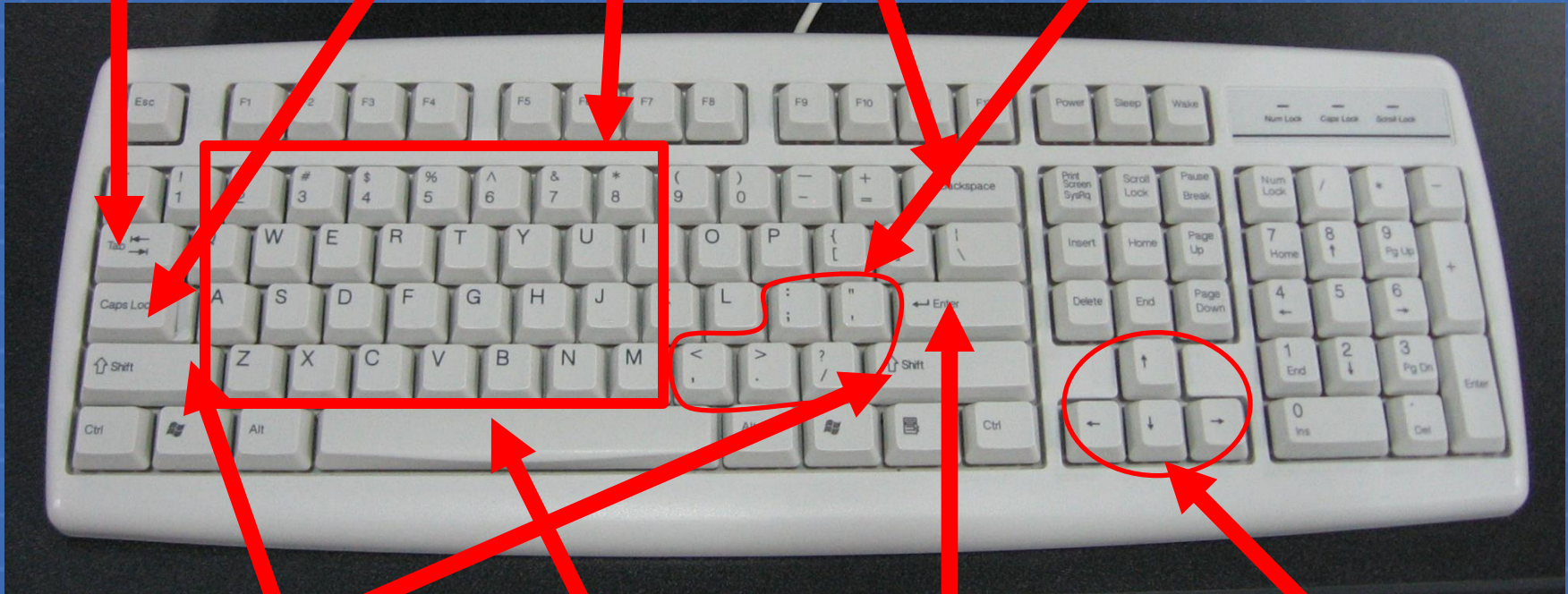
**Alphanumeric
Keys**

Punctuation keys

Tab

Caps Lock

Backspace



Shift

**Space
Bar**

**Enter /
Return**

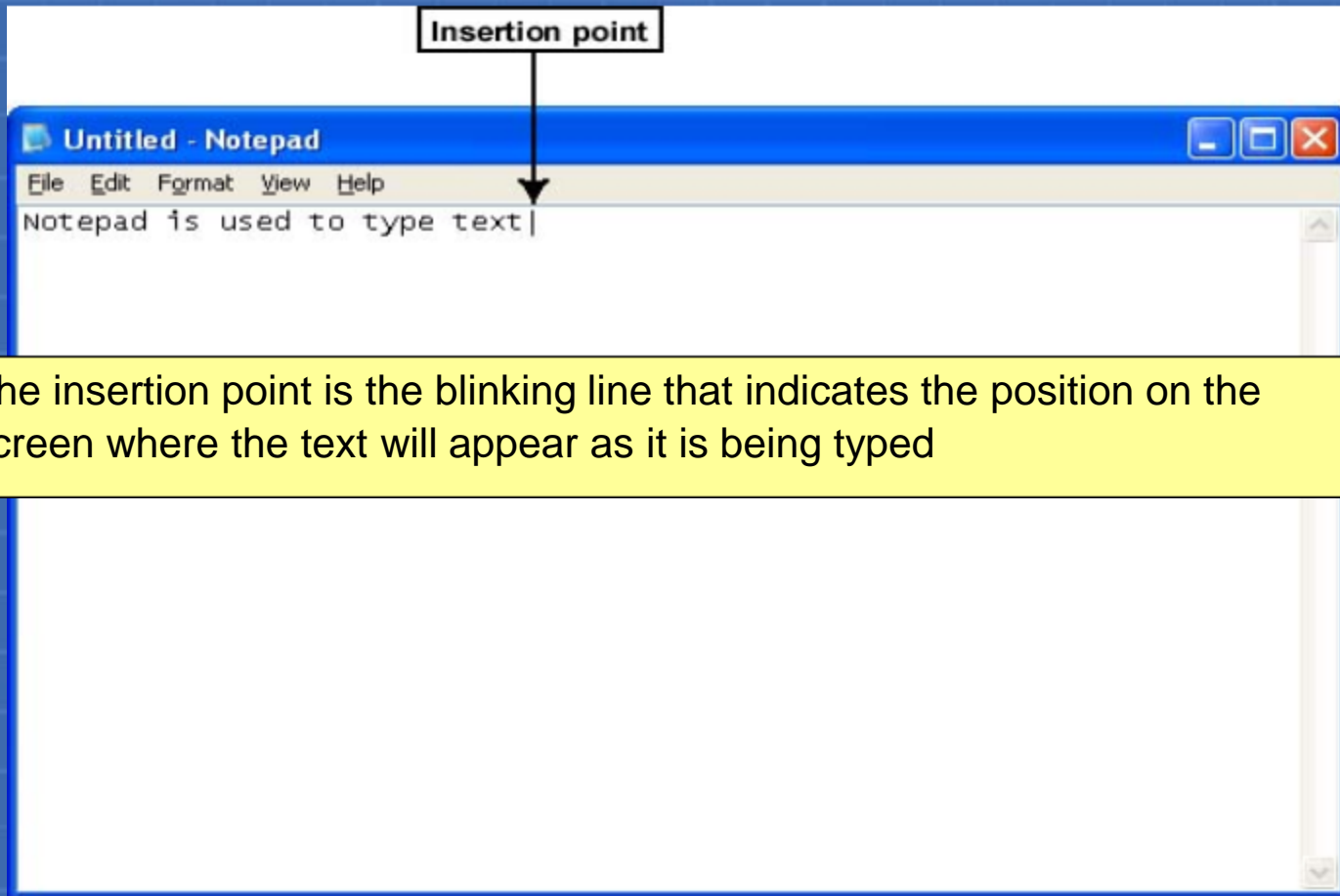
Arrow Keys

Keyboard

- Function keys
 - They are special keys that are used to perform specific functions
 - They are labeled as F1, F2, F3 and so on till F12
 - The F1 key in software applications is used to provide help on the software



Keyboard (Contd..)



The insertion point is the blinking line that indicates the position on the screen where the text will appear as it is being typed

Scanner

- Used to make an exact copy of a picture or a photograph



Microphone

- Is a device used to record sound
- Converts sound waves into audio signals



Web Camera

- A device that captures images and records in the computer



Output Devices

Output Devices

- Device that is capable of representing information from a computer is called an output device
- There are three important output devices connected to the system unit:
 - Monitor
 - Printer
 - Speakers

Monitor

- Resembles a television screen
- Also called the Visual Display Unit (VDU)
- Used to display information from the computer
- Displays text and graphics
- Has a power button to turn it on or off



Projector

- An LCD projector is a type of video projector for displaying video, images or computer data on a screen or other flat surface



Printer

- Used to transfer data from a computer onto paper
- Colour printers as well as grey scale printers available in the market
- Different types of printers are dot matrix printers, inkjet printers(4-8 pages per min) and laser printers(4-20 pages per min)



Speakers

- Used to play sound



Processor on Motherboard



Storage

- Computer Storage
 - Refers to the data stored in an electromagnetic form to be used by the processor
- Storage Capacity
 - Is the number of characters that can be stored on a computer

Storage (Contd..)

Computer

- Stores a variety of data and information in its memory
- Stores numbers (0-9), letters (A-Z) and symbols and other characters (#, {}, ' , ~, ^)
- Uses the binary system to represent these characters

Storage (Contd..)

- The 0s and 1s in the binary system are known as bits (**binary digits**)
- A bit is the smallest unit of measurement of storage capacity
- A set of eight bits is called a byte
- Kilobytes, megabytes, gigabytes and terabytes are higher units for measuring the storage capacity of a computer

Storage (Contd..)

8 bits = 1 byte

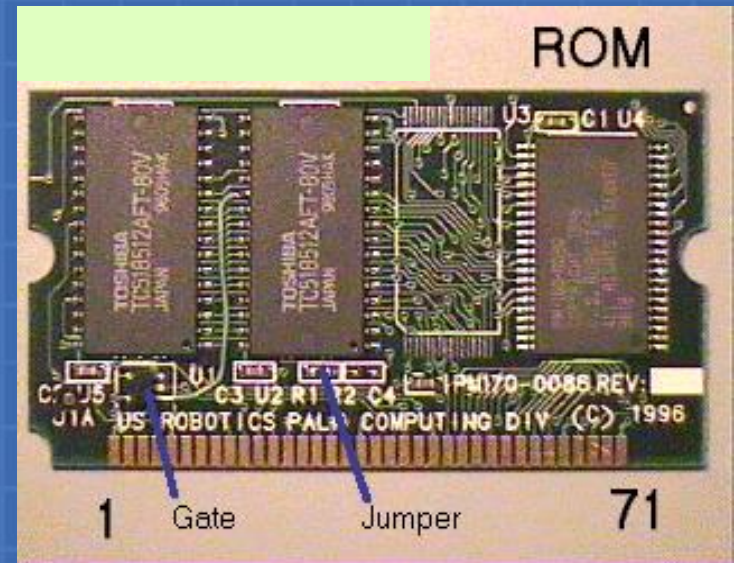
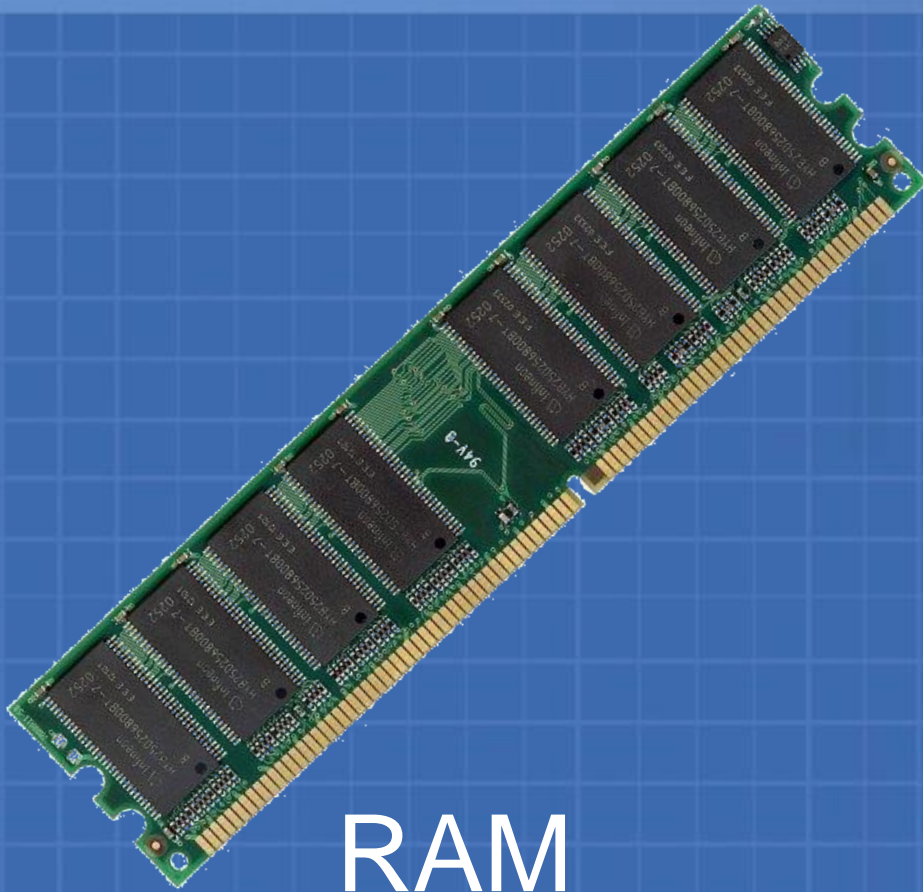
1024 bytes = 1 kilobyte (KB)

1024 KB = 1 megabyte (MB)

1024 MB = 1 gigabyte (GB)

1024 GB = 1 terabyte (TB)

Internal Storage Devices



ROM

External Storage Devices



Hard Disk Drive



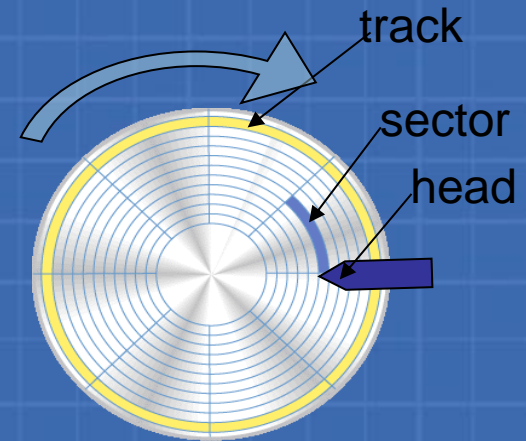
Floppy Disk Drive



CD Drive



Floppy



CD

Computer Software

- Computer software is the key to productive use of computers.
- Software can be categorized into two types:
 1. Operating system software
 - Ex: Windows, Linux
 2. Application software.
 - MS Word

Operating System Software

Operating system software tells the computer how to perform the functions of loading, storing and executing an application and how to transfer data.

Application Software:

Application Software consists of programs that to produce information. And it is used to perform a specific task