

COMPUTER FUNDAMENTALS

WHAT IS COMPUTER?

- The word “computer” is comes from the word “TO COMPUTE” means to calculate.
- A computer is normally considered to be a calculation device which can perform the arithmetic operations very speedily.
- A computer may be defined as a device which operates upon the data.
- Data can be in the form of numbers, letters, symbols, size etc. And it comes in various shapes & sizes depending upon the type of computer application.
- A computer can store, process & retrieve data as and when we desired.
- The fact that computer process data is so fundamental that many people have started calling as “Data Processor”.
- A computer first it gets the Data, does Process on it and then produces Information.

DEFINATION OF COMPUTER

A computer is an electronic device which takes input from the user, processes it and gives the output as per user’s requirement. o So the main tasks of performed by the computer are:

- ♣ Input
- ♣ Process
- ♣ Output

THE CLASSIFICATION OF THE COMPUTER BY DATA PROCESSED

The computers are divided mainly three types on the based on data processed:

1. Analog computers
2. Digital computers

The computers are classified in four types on the based on data processing.

- Micro computer
- Mini computer
- Mainframe computer
- Super computer

Micro Computer:

- Micro computers are the computers with having a microprocessor chip as it central processing unit.
- Originated in late 1970s.

- First micro computer was built with 8 bit processor.
- Microcomputer is known as personal computer.
- Designed to use by individual whether in the form of pc's, workstation or notebook computers.
- Small in size and affordable for general people.

Mini Computer:

- Mini computers are originated in 1960s.
- Small mainframes that perform limited tasks.
- Less expensive than mainframe computer.
- Mini computers are Lower mainframe in the terms of processing capabilities.
- Capable of supporting 10 to 100 users simultaneously.
- In 1970s it contains 8 bit or 12 bit processor.
- Gradually the architecture requirement is grown and 16 and 32 bit.
- Minicomputers are invented which are known as supermini computers.
- Ex: IBM AS400

Mainframe Computer:

- A very powerful computer which capable of supporting thousands of user simultaneously. • It contains powerful data processing system.
- It is capable to run multiple operating systems.
- It is capable to process 100 million instructions per second.
- Mainframes are very large & expensive computers with having larger internal storage capacity & high processing speed.
- Mainframes are used in the organization that need to process large number of transaction online & required a computer system having massive storage & processing capabilities.
- Mainly used to handle bulk of data & information for processing.
- Mainframe system is housed in a central location with several user terminal connected to it. • Much bigger in size & needs a large rooms with closely humidity & temperature.
- IBM & DEC are major vendors of mainframes.
- Ex : MEDHA, SPERRY, IBM, DEC, HP, HCL

COMPUTER COMPONENTS

- Input Devices

- Processing
- Output Devices
- Storage

Input Devices

Input device enables the user to send data, information, or control signals to a computer. The Central Processing Unit (CPU) of a computer receives the input and processes it to produce the output.

Some of the popular input devices are:

Keyboard

Mouse

Scanner

Joystick

Light Pen

Digitizer

Microphone

Touch screen

Webcam

Output Devices

The output device displays the result of the processing of raw data that is entered in the computer through an input device. There are a number of output devices that display output in different ways such as text, images, hard copies, and audio or video. Some of the popular output devices are:

1. Monitor
 - CRT Monitor
 - LCD Monitor
 - LED Monitor
 - Plasma Monitor

2. Printer

- Impact Printers
 - A. Character Printers
 - i. Dot Matrix printers
 - ii. Daisy Wheel printers
 - B. Line printers
 - i. Drum printers
 - ii. Chain printers
- Non-impact printers
 - A. Laser printers
 - B. Inkjet printers

3. Projector

Central Processing Unit (CPU)

A Central Processing Unit is also called a processor, central processor, or microprocessor. It carries out all the important functions of a computer. It receives instructions from both the hardware and active software and produces output accordingly. It stores all important programs like operating systems and application software. CPU also helps Input and output devices to communicate with each other. Owing to these features of CPU, it is often referred to as the brain of the computer.

CPU is installed or inserted into a CPU socket located on the motherboard. Furthermore, it is provided with a heat sink to absorb and dissipate heat to keep the CPU cool and functioning smoothly.

Generally, a CPU has three components:

- ALU (Arithmetic Logic Unit)
- Control Unit
- Memory or Storage Unit