Introduction To Computer

Outline

- Meaning of Computer?
- Functionalities of Computer.
- Components of Computer.
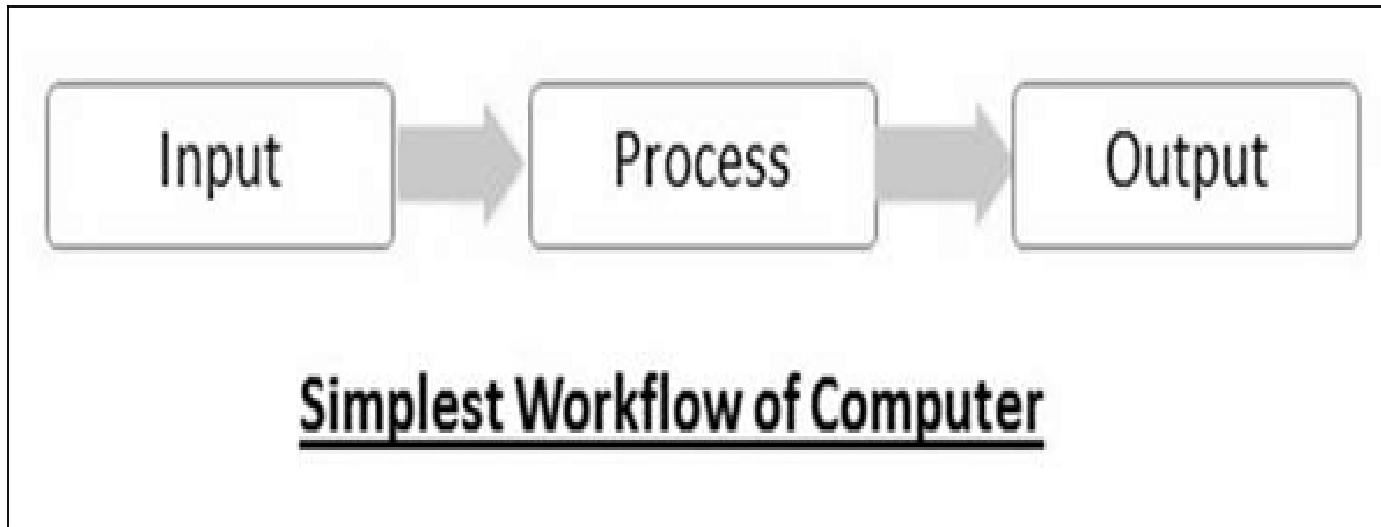- Characteristics of Computer.

What is computer

A computer is an electronic device, operating under the control of instructions stored in its own memory that can accept data (input), process the data according to specified rules, produce information (output), and store the information for future use.

Functionalities of a computer

Any digital computer carries out four functions in gross terms:

- Takes data as input.

- Stores the data/instructions in its memory and use them when required.

- Processes the data and converts it into useful information.

- Generates the output.

Input-Process-Output Model

Input → Process → Output

Simplest Workflow of Computer

Components of Computer

- Hardware
- Software

Hardware

- Computer hardware is the collection of physical elements "Tangible objects" that constitutes a computer system. The actual machinery, wires, transistors, and circuits … etc.

- Hardware is basically anything that you can touch with your fingers.

- For computer hardware to work it must follow a set of instructions that is supplied to it as software.

Hardware Components

The major components of hardware are:

- CPU (Central Processing Unit)
- Main memory
- Secondary storage devices
- Input devices
- Output devices

CPU

- CPU known as microprocessor or processor
- It is responsible for all functions and processes.
- CPU is the most important component in computer because without it, computer could not run software.

CPU Components

The CPU is comprised of three main parts

- ALU (Arithmetic Logic Unit)

- Control Unit (CU)

- Registers: Stores the data that is to be executed next.

Primary Memory

It is divided into two parts:

- RAM(Random Access Memory)
- ROM(Read Only Memory)

Secondary Storage Devices

- Secondary storage is a type of memory that can hold data for long time period.

- Programs are normally stored in secondary memory and loaded into main memory as needed.

Example of Secondary Storage Devices

- Disk drive
- Optical Disk
- Flash Disk

Input Devices

- Input device is any peripheral piece of computer hardware equipment to provide data and control signals to an information processing system such as a computer or other information appliance.

- The component that collects the data and send it to computer is called an input devices.

Example of Input Devices

- Keyboard
- Mouse (pointing device)
- Microphone
- Scanner
- Webcam
- Tablets
- Cameras
- Video Capture
- HardwareTrackballs
- Barcode reader
- Digital camera

Output Devices

- An output device is any piece of computer hardware equipment used to communicate the results of data processing carried out by an information processing system (such as a computer)

- It converts the electronically generated information into human-readable form.

Output devices Examples

- Monitor
- LCD Projection Panels
- Printers (all types)
- Computer Output Microfilm (COM)
- Plotters
- Speaker(s)
- Projector

Software

- Software is a generic term for organized collections of computer data and instructions,
- It is broken into two major categories:
- ❑system software
- ❑application software

Characteristics of Computer

- Speed
- Accuracy
- Deligence
- Storage Capacity
- Versatility

THANK YOU