# ANATOMY OF COMPUTER

A computer is basically concerned with accepting data as input, storing all the information, which is related to it processing the data in a predetermined way that confirms with a program of instructions and then communicating the result as output. Thus a computer essentially consists of there element.

1.   Input device
2.   Control processing unit (CPU)
3.   Out put device

Input and out put devices provides man to machine and machine to man communication and since they surround CPU, they are also called PERIPHERAL DIVICES.

Central Processing Unit (CPU)
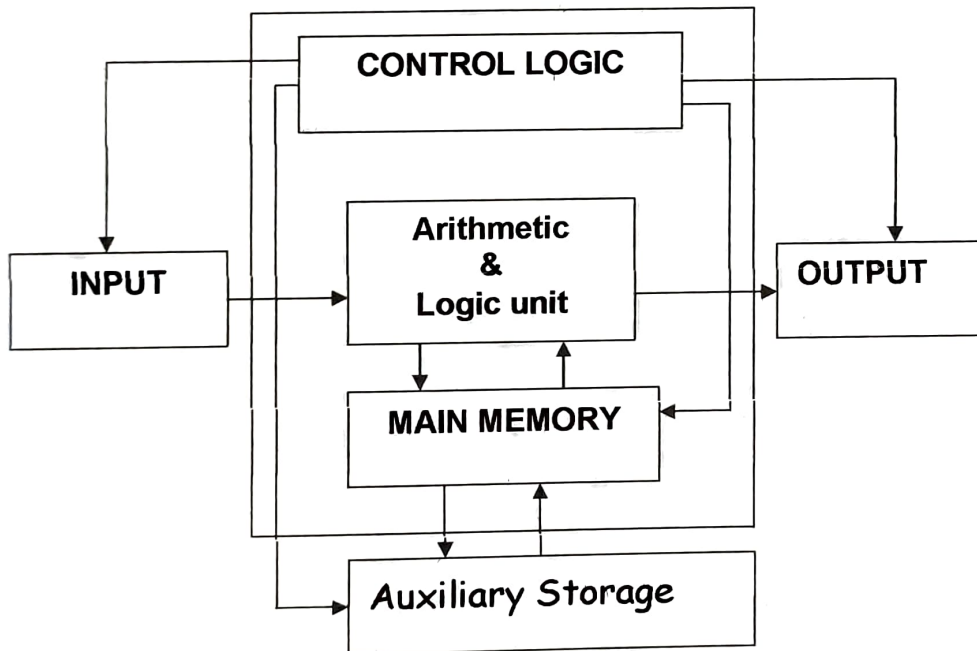
Basic Organization of Computer System

INPUT UNIT : - It accepts (or reads) the list of instruction and data from the out side world. It converts these instructions and data in computer acceptable form. It supplies the converted instructions and data to the computer system for further processing. A computer system may have one or more of following input devices, depending upon its type, size and use.

Keyboard : It is a data entry device. It contains a matrix of switches (one switch per key) and a keyboard controller.

Mouse: It controls the movement of pointer.
There are three types of mouse

1. **Mechanical mouse**: It has a rubber or metal ball on its under side. When ball rolls mechanical sensor within the mouse detect the direction in which the ball is rolling and move the screen pointer accordingly.
2. **Opto-mechanical mouse**: It also has ball on its underside. It uses optical sensor to sense the motion of ball.
3. **Optical mouse**: It has optical sensor in place of a mouse ball. It uses a laser to detect the mouse movement. The laser diode inside these mice illuminates the mousing surface underneath. It has no mechanical moving parts.
4. **Wireless mouse:** It is not physically connected to the computer. It uses infrared or radiowaves (eg. Blue tooth) to communicate with computer.

Light pen: It is a pointing device. It consists of a photocell mounted on a penshaped tube.The light coming from the screen causes the photocell to respond by generating a pulse. This electric response is transmitted to a processor that identifies the pixel. The light pen is pointing to. The checking is performed by pressing the pen on screen. It is used to draw images on the screen.

Touch screen: This is a type of display screen that has a touch sensitive transparent panel covering the screen is known as touch screen.
 A touch screen is used to choose options which are displayed on the screen. As touch screen are very easy to use, they are often used as input devices in public places such as ATM, etc.

Graphic tablet or digitizing tablets: It enables us to enter drawing and sketches into a computer. It contains electronic circuitry that enables it to detect movement of cursor or pen and translate the movement into digital signals that it sends to the computer.

Joystick: It is a device that lets the user to move an object on the screen. A joy stick is a stick set in two crossed grooves and can be moved left or right, forward or backward.

Microphone: It is used to send sound input to the computer. The sound card translates the electrical signal from Microphone into digitized form.

Computer Fundamental

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Scanner: A scanner creates an electronic form of the printed images which can be later manipulated charged and modified according to requirement. It converts any image into electronic form by shining light on the image and sensing the intensity of the reflection at every point.

MICR (Magnetic ink character reader): The characters are printed using a special ink called magnetic ink. MICR read these characters by magnetizing the ink and by examining the shape of the character. They are used by Banks.

OCR (Optical character reader) It reads characters of special type fonts printed on paper. OCR soft ware converts scanned image into text for editing.

OMR (Optical mark Reader): Special preprinted forms are designed with boxes which can be marked with a dark pencil or ink. Such a document is read by a document reader called OMR.

Smart card reader: The enhanced version of cards with magnetic strips is called the Smart Card. It contains a microprocessor that retains security and personal data in its memory all the time.

OUT PUT UNIT:

It supplies information and results of computation to the outside world. It links the computer with external environment. It accepts the result produced by the computer which are in coded form and hence can not be easily under stood by us. It converts those coded results to human acceptable (readable) form. It supplies the converted results to the out side world. Output devices include

1 Card puncher
2 Tape puncher
3 Magnetic tape
4 Magnetic disk
5 Floppy disk
6 Printer, Plotter
7 Visual display terminal (VDU)

STORAGE UNIT

All the data to be processed and the instruction required for processing (received form input device) Intermediate result of processing, final results of processing before these results are released to an output device are required to be stored in the computer. A memory cell store s a symbol selected from a set of symbols. Each of these cells is further divided into smaller parts called bits. A bit means a binary digits either 0 or 1. A bit is an elementary unit of the memory. A group of eight bits is called a byte and a group of 4 bits is called a nibble. 1KB=1024 byte, 1MB= 1024x1024 byte., 1GB =1024x1024x1024byte.1TB= 1024GB Storage devices are of two types (1) main storage or intermediate access storage (IAS), which is a part of control processing unit.