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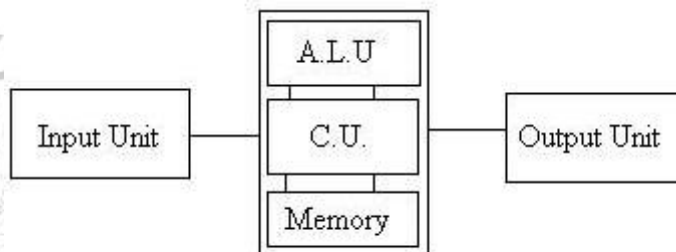
Definition

A computer is a high-speed electronic device, which is capable to perform logical and arithmetical operation.

"A computer is an automatic electronic apparatus for making calculation or controlling operations in numerical or logical term"

Computer Architecture

We can understand computer easily by its block diagram. It is as below



Block Diagram of Computer

A computer mainly consists of three units

- Input Unit
- Process Unit
- Output Unit

Input Unit:- This unit is used for entering data into the computer. Some of the input device is Keyboard, Mouse, and Scanner etc.

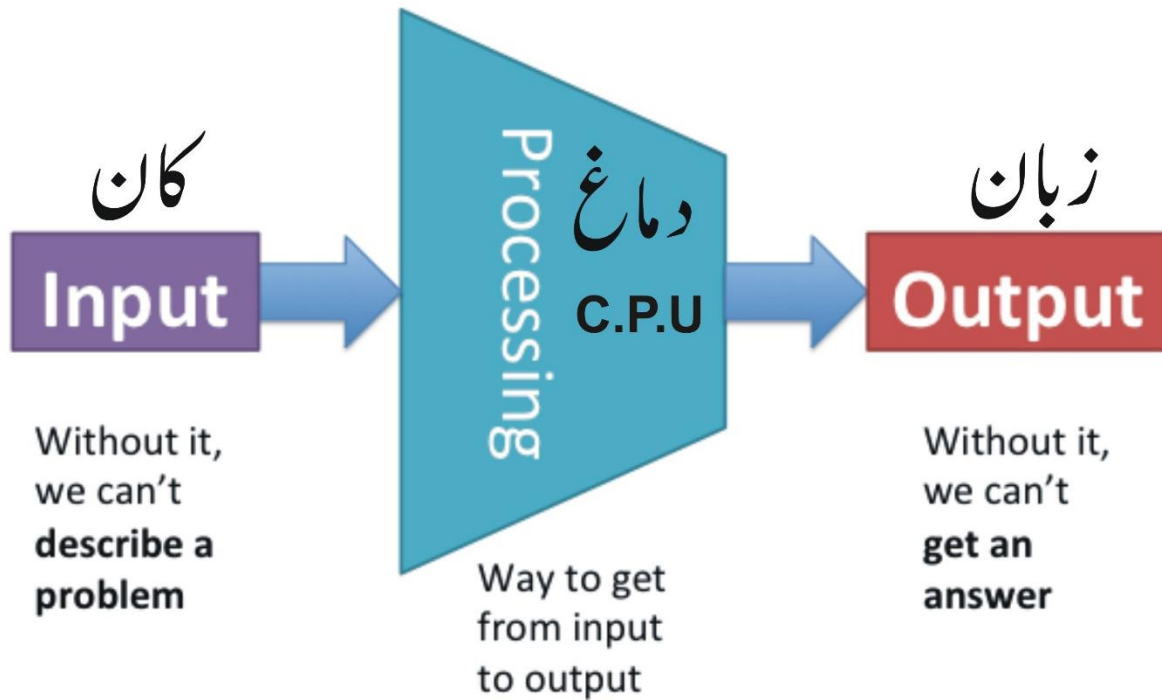
Process Unit:- This unit is itself consist of three units.

1. **A.L.U.** (Arithmetic & Logic Unit)- This unit is responsible for arithmetic and logical operations.
2. **C.U.:-** (Control Unit)- This unit is responsible for program execution, fetching information from memory, decoding it and sending it at appropriate place in the computer to execute it.

3. **Memory:-** The data and instruction that are entered in the system has to be stored inside the computer before the actual execution takes place. Similarly, the result is also to be stored before sending it to output device. This work of storage is done by Memory Unit.

Output Unit:- The data processed through C.P.U can be viewed with the help of Output devices. These output devices are known as Output Unit. e.g. VDU (Visual Display Unit, Monitor) LCD, Printer etc.

What All Computers Need



- Input Devices

- Keyboard
- Computer mouse
- Graphic tablet
- Touchscreen
- Barcode reader
- Microphone
- Webcam
- Game controller
- Light pen
- Scanner
- Digital camera

- Output Devices

- Computer display
- Printer
- Plotter
- Projector
- Speaker

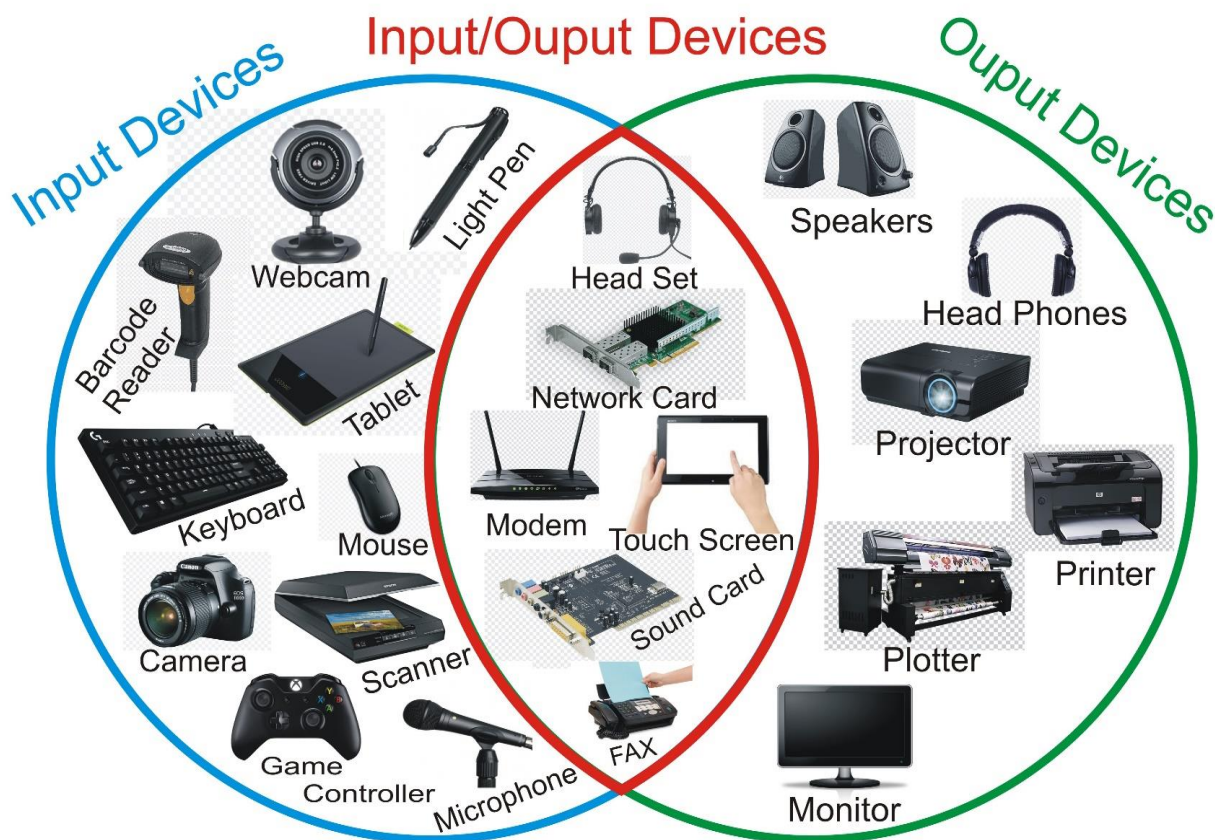
- Headphones
- Input/Output Devices
 - Modem
 - Network Cards
 - Touch Screen
 - Audio Cards/Sound Cards
 - Facsimile (FAX)

It has scanner to scan the document and also has printer to Print the document.

- Headsets

Headset consists of Speaker and Microphone. Speaker acts as Output Device and Microphone acts as Input device.

- Storage devices
 - Floppy disk drive
 - Flash drive
 - Disk drive
 - Smartphone or Tablet computer storage interface
 - CD/DVD drive



History of Computer

The discovery of numbers was a great achievement for humans. Our life can't imagine without numbers. During the stone age, people used pebbles for counting persons or animals. After few ages pebbles were replaced with sticks or ropes. Again after few ages symbols took place. It discovered the numbering system which we are still using.

ABACUS

ABACUS was the first calculating device used for simple calculation. ABACUS is a clay board with number of beads that are placed in rods or wires. These beads are moved from one side to another for counting. It was introduced to the world since 3000 B.C. It was first developed in China but later it was used in all part of world.



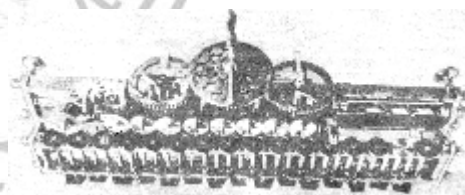
Napier's Bones

ABACUS gives the only facility of addition of two numbers. An Englishman John Napier introduced his Bones Machine to the world. It was capable of doing subtraction as well as addition.

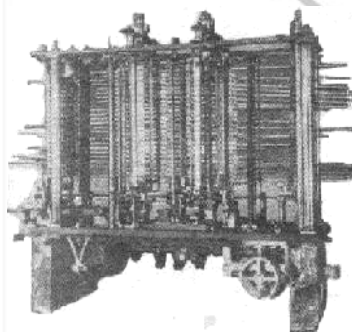


Pascale's Adding machine

An Englishman Blais Pascal in 1643 invented a mechanical device named as Pascal's Adding machine. It was made up with the use of gears something like the gears uses in hand-wound watches. It was totally automatic mechanical device used for doing calculations.



Babage's Analytical engine



Charles Babage is called the *Father of Computer*. This was the first man who developed the concept of computer as it is right now. He designed his *Analytical engine* using the concept of Information and the concept of Input-Process-Output. But in that age there was not any source to run his machine. Because till then electricity was not invented. He puts a mile stone in the starting of computer age.

Hollerith's Machine

A census statistician of U.S. census bureau **Herman Hollerith** invented a machine which uses electricity to run. That was the first time when data was stored successfully in an electronic device. His machine was capable of reading both numbers and characters and giving output of process as desired format. Data were entered into the computer by using *Punched Card* with the combination of holes, called codes. He established a company called "Tabulating Machine Company" which is today known as "International Business Machine Corporation (IBM)".



Classification of Computer

Computers can be classified into the following five categories.

No.	Type	Specifications
1	PC (Personal Computer)	It is a single user computer system having moderately powerful microprocessor
2	Workstation	It is also a single user computer system, similar to personal computer however has a more powerful microprocessor.
3	Mini Computer	It is a multi-user computer system, capable of supporting hundreds of users simultaneously.
4	Main Frame	It is a multi-user computer system, capable of supporting hundreds of users simultaneously. Software technology is different from minicomputer.
5	Supercomputer	It is an extremely fast computer, which can execute hundreds of millions of instructions per second.

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PC (Personal Computer)



A PC can be defined as a small, relatively inexpensive computer designed for an individual user. PCs are based on the microprocessor technology that enables manufacturers to put an entire CPU on one chip. Businesses use personal computers for word processing, accounting, desktop publishing, and for running spreadsheet and database management applications. At home, the most popular use for personal computers is playing games and surfing the Internet.

Workstation



Workstation is a computer used for engineering applications (CAD/CAM), desktop publishing, software development, and other such types of applications which require a moderate amount of computing power and relatively high quality graphics capabilities.

Minicomputer

It is a midsize multi-processing system capable of supporting up to 250 users simultaneously.



Mainframe



Mainframe is very large in size and is an expensive computer capable of supporting hundreds or even thousands of users simultaneously. Mainframe executes many programs concurrently and supports many simultaneous execution of programs.

Supercomputer



Supercomputers are one of the fastest computers currently available. Supercomputers are very expensive and are employed for specialized applications that require immense amount of mathematical calculations (number crunching).

For example, weather forecasting, scientific simulations, (animated) graphics, fluid dynamic calculations, nuclear energy research, electronic design, and analysis of geological data (e.g. in petrochemical prospecting).

Tabular Representation of Various Memory Sizes

NAME	EQUAL TO	SIZE (IN BYTES)
Bit	1 bit	1/8
Nibble	4 bits	1/2 (rare)
Byte	8 bits	1
Kilobyte	1024 bytes	1024
Megabyte	1, 024kilobytes	1, 048, 576
Gigabyte	1, 024 megabytes	1, 073, 741, 824



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Terrabyte	1, 024 gigabytes	1, 099, 511, 627, 776
Petabyte	1, 024 terrabytes	1, 125, 899, 906, 842, 624
Exabyte	1, 024 petabytes	1, 152, 921, 504, 606, 846, 976
Zettabyte	1, 024 exabytes	1, 180, 591, 620, 717, 411, 303, 424
Yottabyte	1, 024 zettabytes	1, 208, 925, 819, 614, 629, 174, 706, 176

Abbreviation	Full Form
BIT	Binary digIT
BYTE	Binary Yoked Transfer Element
KB	Kilobyte
MB	Megabyte
GB	Gigabyte
TB	Terabyte
PT	Petabyte
ZT	Zettabyte
YT	Yottabyte

What Is a Keyboard Shortcut?

In computing, a keyboard shortcut is a set of one or more keys that invoke a command in software or an operating system.

These shortcuts can provide an easier and quicker method of using computer programs. These commands are commonly accessed by using the Alt key (on PC computers), command key (on Apple computers), Ctrl, and Shift in conjunction with a single letter.

Windows Shortcut Keys

- | | |
|--|--|
| <ul style="list-style-type: none"> • Windows Key + R: Opens the Run menu. • Ctrl+X: Cuts the file • Ctrl+C: Copies the file • Ctrl+V: Pastes the file • Ctrl+S: Saves the file • Shift+Del: deletes the file permanently • Windows Key + E: Opens Explorer. • Alt + Tab: Switch between open programs. | <ul style="list-style-type: none"> • Ctrl + Shift + Esc: Open Task Manager. • Ctrl + Esc: Open Start menu. • Alt + F4: Quit active application or close current window. • Alt + Spacebar: Open menu for active program. • F1: Open Help menu for active application. • Windows Key + M: Minimize all windows. • Windows + F1: Open Windows Help and Support. |
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