Lesson:

Java

Computer Basics

PW SKILLS

Topics Involved:

- What is a Computer ?
- Classification of Computer (Based on Size, Work and Purpose)
- Feature of Computer
- Components of Computer
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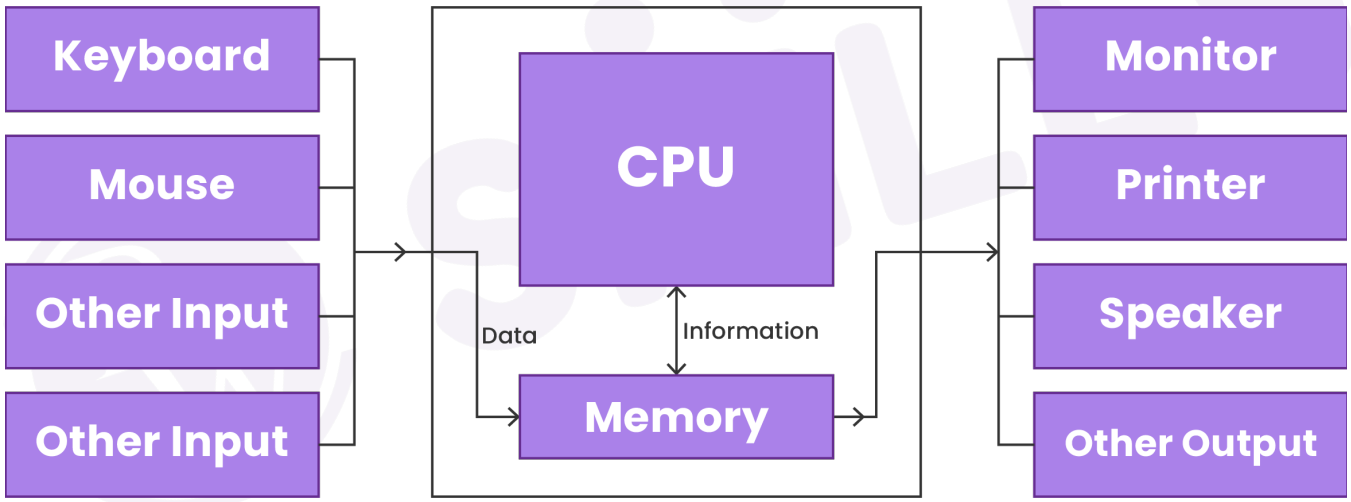
  - Classification of Computer (Based on Size, Work and Purpose)
  - Feature of Computer
  - Components of Computer

What is a Computer?

A computer is a machine that accepts information (in the form of digitised data) and processes it in accordance with a programme, piece of software, or set of instructions that specify how the information should be handled.



Classification of Computer(Based on size, work and Purpose)

1. SuperComputer
2. Mainframe Computer
3. Mini Computer
4. Micro Computer

SuperComputer:

- A supercomputer is a sort of expensive, swift, and potent computer used for data processing.
- The size and storage capacity of the SuperComputer are similarly enormous and were created to process enormous amounts of data quickly and efficiently.
- Multiprocessing or parallel processing computers are also known as supercomputers.
- Supercomputers are in charge of carrying out a single task, structuring and resolving the trickiest issues needing an enormous number of calculations.

Mainframe Computer:

- High performance, multi-programming computers are MainFrames.
- The mainframe has a sizable storage capacity and a fast data processing system.
- The mainframe is a very effective computer that can carry out many complex calculations at once and operate continuously for a very long time.
- These computers are microprocessors with the capacity to process data with an excessive amount of performance and speed.

Mini Computer:

- A minicomputer is a digital, multiple-user computer system connected to multiple CPUs.
- On these computers, multiple individuals can work at once as opposed to just one. Additionally, it is compatible with other peripherals like a printer, plotter, etc.

Micro Computer:

- The most popular microcomputers are also used by many people today at home.
- Since the advent of microprocessors in the year 1970, the term "Digital Personal Computer" has been used to describe computers that may be used by individuals at low cost and fair cost.
- Microcomputer examples include a PC or laptop.
- Microcomputers also include smartphones, tablets, and PDAs.

Note: Now a days computers are different forms like PC, Laptops, Mobile Phones, etc

Features of Computer:

Speed

When executing mathematical computations, a computer works significantly faster and more accurately than a human. One billion instructions can be processed by computers every second. Computer operations take only a few nanoseconds or microseconds to complete.

Accuracy

Calculations made by computers are always accurate. Data inaccuracy or consistency might lead to errors.

Diligence

A computer has the constancy and accuracy to carry out countless jobs or calculations. It doesn't experience any drowsiness or lack of focus. It is also superior to human memory because of it.

Versatility

The ability of a computer to carry out many tasks with the same level of accuracy and effectiveness is referred to as versatility.

Reliability

When given the same set of data, a computer consistently produces the same output, so no matter how many times we input the same data, the outcome will remain the same.

Automation

The computer completes every task automatically, that is, without human interaction.

Memory
A computer has internal storage for data called primary memory. Data is also stored on removable media like CDs, pen drives, and other types of secondary storage.

Components of Computer:

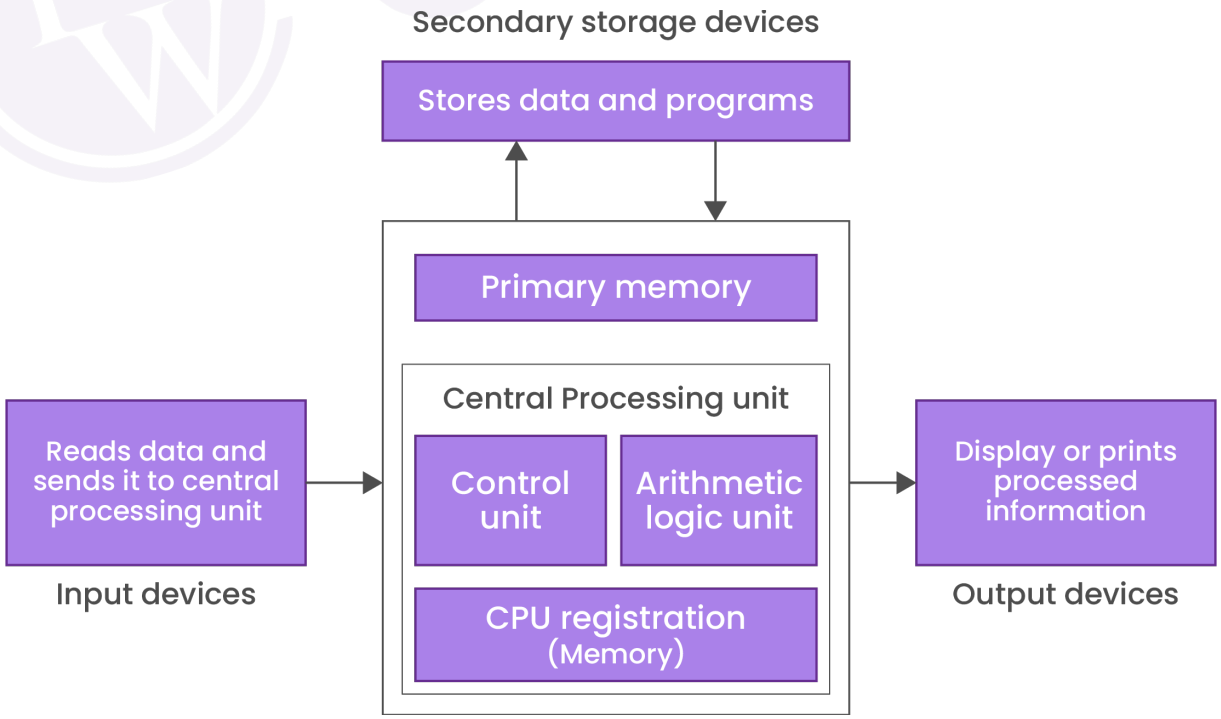
- I/O(Input/Output)
- CPU
- Primary Memory
- RAM
- Hard Disk/ SSD

I/O(Input/Output):

Input: Through input units or devices like a keyboard, joystick, etc., computers can receive commands in the form of numbers, alphabets, graphics, etc. and respond accordingly. The responses are then output in a language that humans understand or that we have programmed the computer with. These inputs are then analysed and transformed to computer language.

Output: The output is what we get back from the command we gave the computer through the input device. The monitor is the device that is utilised the most since commands are entered via the keyboard, and the outcome is shown on the monitor after processing.

CPU Central Processing Unit: Since it serves as the main processing unit and controls all actions, the CPU is referred to as the computer's brain. It has three components that support the CPU's efficient operation and communicates with every other part of the computer. A part of the CPU is:



Primary Memory: is often referred to as internal memory or main memory. Additional names for secondary memory are external memory and auxiliary memory. Examples include registers, RAM, ROM, cache memory, PROM, and EPROM. Examples include magnetic tapes, hard drives, and floppy discs.

RAM(Random-access memory): is volatile. This means that information is kept in RAM while the computer is running, but it is erased when the machine is powered off. The operating system and other files are frequently loaded from an HDD or SSD into RAM when the computer is restarted.

Hard Disk/SSD: a computer's magnetic storage medium. Hard discs are flat, round, magnetically-coated platters composed of glass or metal. Personal computer hard discs have a storage capacity of terabytes (trillions of bytes). Concentric tracks of data are stored on their surfaces. Tiny spots on a spinning disc are magnetised by a small electromagnet, known as a magnetic head, solid-state drives (SSDs), which store data on flash memory chips rather than hard discs, were utilised in some personal computers and laptops.