Lecture 4

Computer System

Computer defined as a fast and accurate data processing system that accepts data, performs various operations on the data, has the capability to store the data and produce the results on the basis of detailed step by step instructions given to it.

A computer system is made up of 4 main types of components:

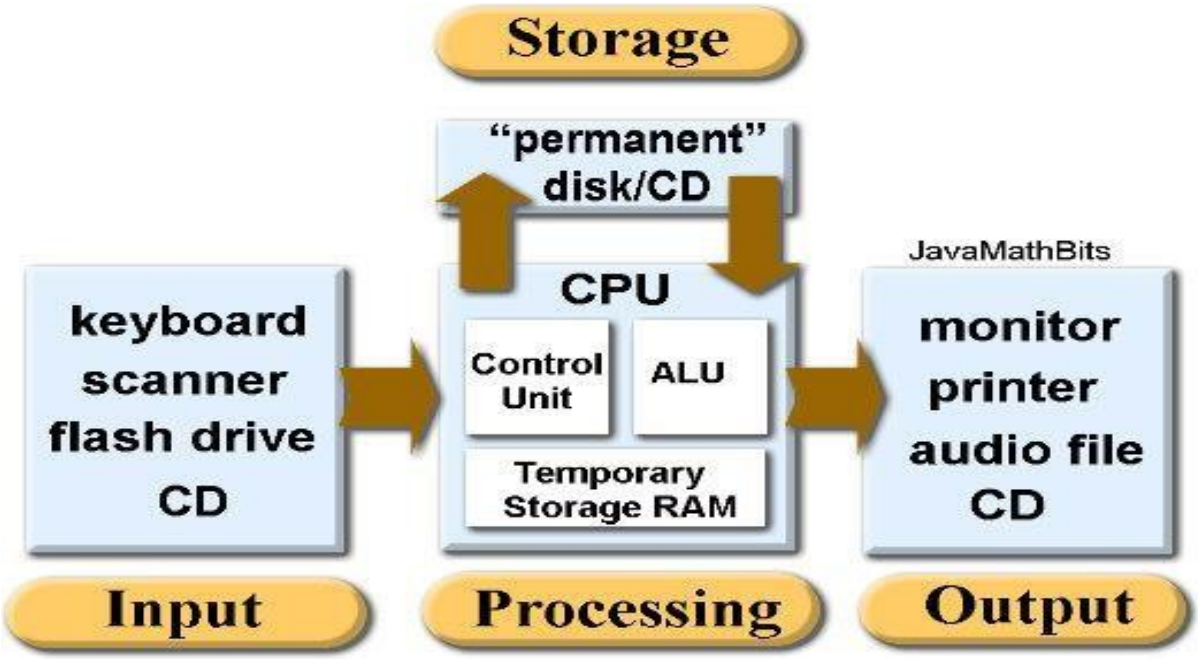
1) Hardware
2) Software (Software: Bringing the Machine to Life)
3) Data
4) People/Users.

The terms **hardware and software** are almost always used in connection with the computer.

1) **The Hardware:** The hardware is the machinery itself. It is made up of the physical parts or devices of the computer system .

A computer Hardware (consists of mainly four basic Units)

1.1) Input unit.
1.2) Storage unit.
1.3) Central processing (Arithmetic logic unit and control unit).
1.4) Output unit.



1.1) Input Unit: Input unit is any peripheral (piece of computer hardware) equipment which Translate data from **form** that humans understand to one that the computer can work with. Most common are *keyboard a*nd *mouse***.**

Keyboard

Mouse

Joy Stick

Mic

Barcode Reader

Stylus/Pen

Web Camera

Touch pad

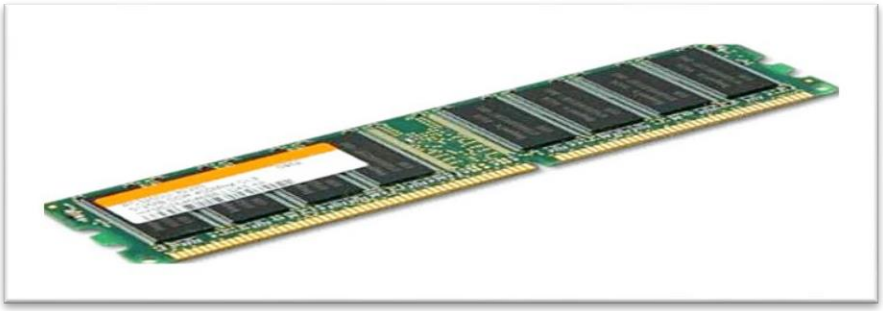
Touch Screen

Finger Print reader

1.2) Storage Unit:

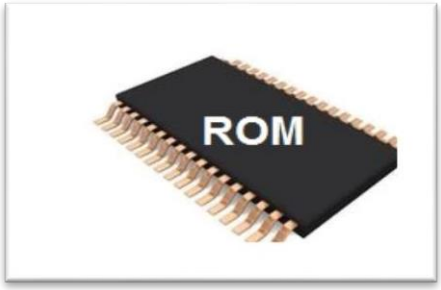
1.2.1) Primary Memory:

❖ **RAM**:



- Random Access Memory is a memory structure responsible for storing data on a temporary basis.
- It can be quickly accessed by the processor as and when needed.
- RAM is generally measured in GB (Gigabytes).
- RAM plays a huge part in the number of programs a computer can run simultaneously. If you've ever wondered why your computer may buckle under the pressure if 5 or 6 memory-demanding programs run at the same time, it's probably because it doesn't have enough RAM capacity to support them all.
- It is volatile memory; that is, what's held in RAM is only held there as long as the computer is on. If the data isn't moved to the hard drive before the computer is turned off, the data stored in RAM is flushed away.

❖ **ROM** (Read Only Memory):



- It's a type of storage medium that permanently stores data on personal computers (PCs) and other electronic devices.
- It contains the programming needed to start a PC, which is essential for boot-up;
- It performs major input/output tasks and holds programs or software instructions.
- Because ROM is read-only, it cannot be changed; it is permanent and non- volatile, meaning it also holds its memory even when power is removed.