

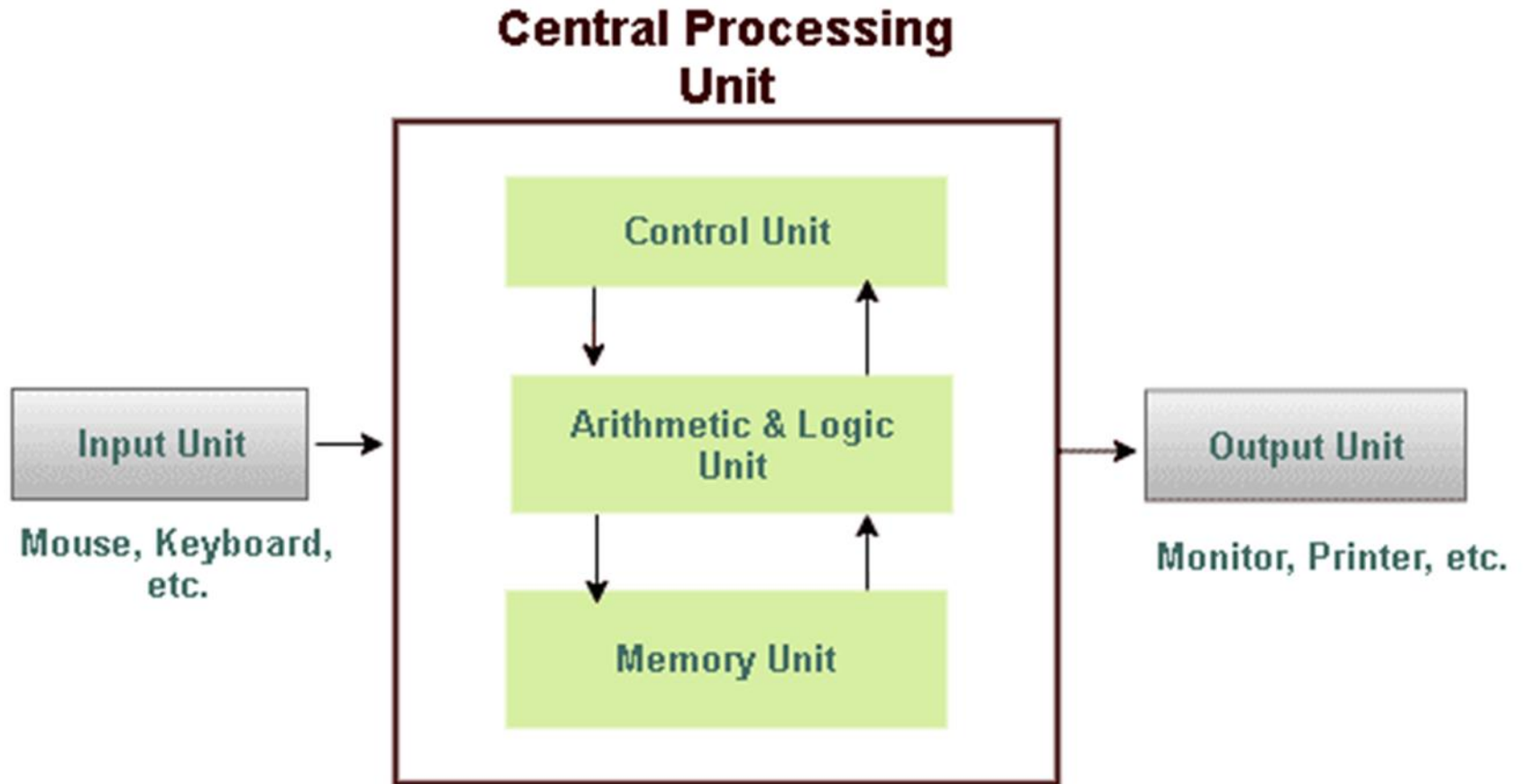
# Computer

- ***What is computers?***
- A computer is electronic device which is use to process of data
- The term computer is derived from the **“COMPUTE”** this means to calculate or programmable machine.
- Computer can not do anything without a program . It represents the decimal number through a string of binary digits.



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# Block diagram of computer



# *Input device*

- Devices like **keyboard** and **mouse** that are used to input data and instructions to the computer are called input unit



# *Types of input device*

*An input device is a computer device that allows computer users to enter data into a system and send instructions to the system to execute tasks accordingly*

Keyboard	Mouse
Joysticks	Wii Remote
Light Pen	Game pad
Microphone	Webcam
Scanner	Digital camera
Barcode Reader	Portable Media Player
Trackball	Graphic Tablet
Magnetic Ink Card Reader (MICR)	Optical Character Reader (OCR)
Optical Character Reader (OCR)	Digitizer

# Keyboard

- The **keyboard** is the most fundamental input device of the computer.
- It is commonly used to insert data on the computer by using keys mounted on a keyboard



# ***MOUSE***

*A Mouse is a hand-supported device that enables computer users to move the cursor point on the computer screen.*



# *Joysticks*

A pointing device used to move an **object on screen in any direction**. It employs a vertical rod mounted on a base with one or two buttons.



# *Light pen*

A light pen is a computer input device in the form of a light-sensitive wand used in conjunction with a computer's cathode-ray tube (CRT) display.



**Input Devices**



# ***Microphone***

A microphone is a device that translates sound vibrations in the air into electronic signals and scribes them to a recording medium or over a loudspeaker



# *Webcam*

A webcam is a small digital video camera directly or indirectly connected to a computer or a computer network



# *Trackball*

A trackball is an input device which comprises of a exposed protruding ball held by a socket having sensors for detecting the ball's rotation



# Output devices

- Output devices convert the computer data to human understandable form.
- Output devices convert the computer data to human understandable form.



# Output device

- An output device is any hardware device used to send data from a computer to another device or user.

- ☐ Monitor.
- ☐ Printer.
- ☐ Plotter.
- ☐ Projector.
- ☐ Speakers.
- ☐ Headphones.
- ☐ Sound Card.
- ☐ Video Card.

# Monitor

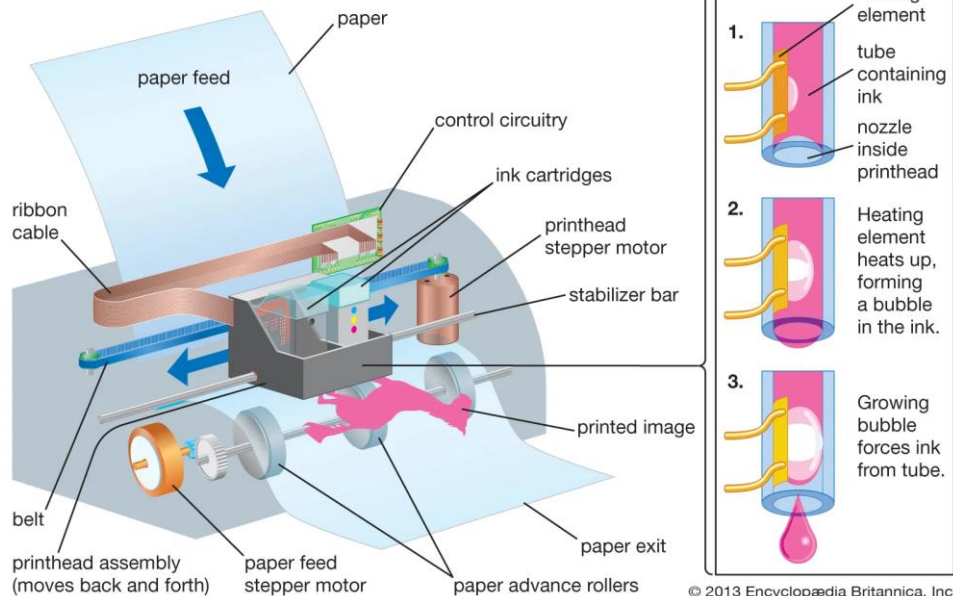
- A monitor is **an electronic output device** that is also known as a video display terminal (VDT) or a video display unit (VDU). It is used to display images, text,



# Printer

- A printer is a hardware output device that is used to generate **hard copy** and print any document. A document can be of any type such as a text file, image,

Principle of the ink-jet printer





# Plotter

- A graphics printer that draws images with ink pens. Plotters actually draw point-to-point lines directly from vector graphics files.*





# ***Projector***

- A projector is **an output device that is capable of connecting to a computer**, which may be an other option for a monitor or television in terms of displaying



# Speakers

- *Speakers are transducers that convert electromagnetic waves into sound waves. The speakers receive audio input from a device such as a compute*



# *Headphones*

- Headphones are small [speakers](#) that can be worn in or around your ears. Traditional headphones have two ear cups attached by a band that is placed over your head.



# Sound Card

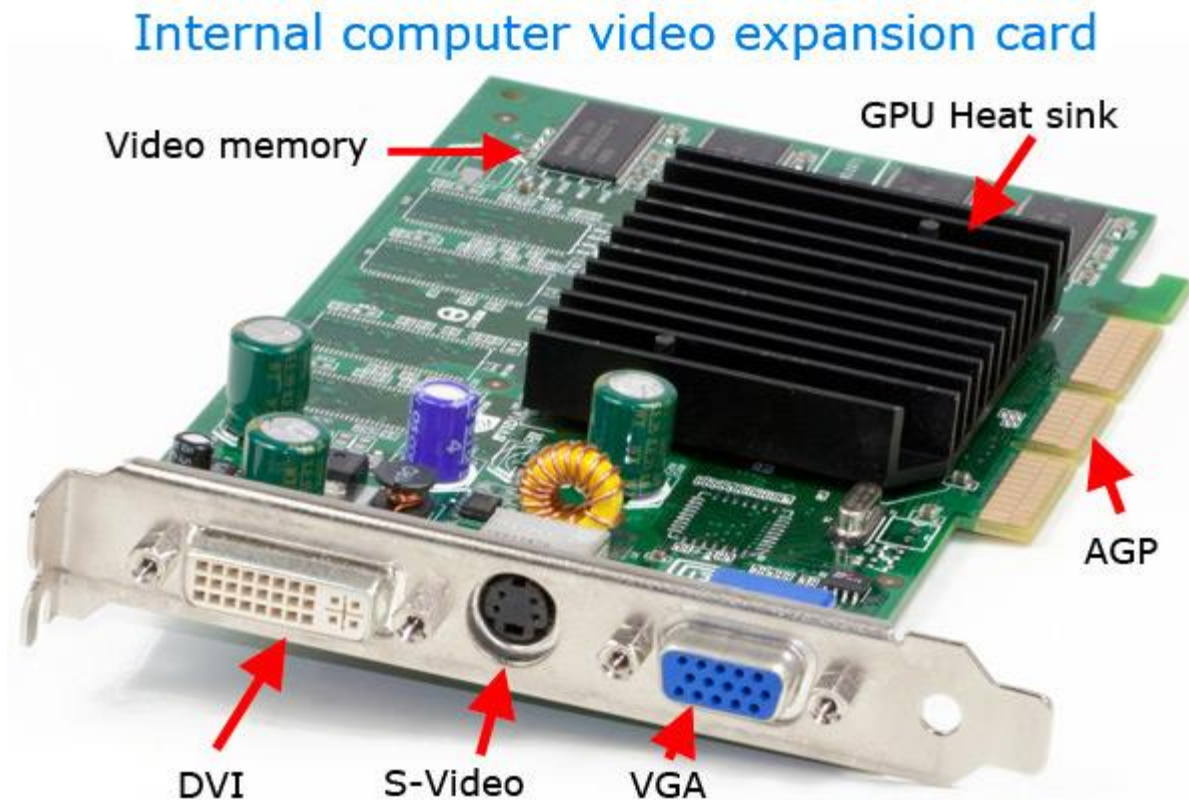
- *A sound card (also referred to as an audio card) is a peripheral device that attaches to the ISA or PCI slot on a motherboard to enable the computer to input, process, and deliver sound.*

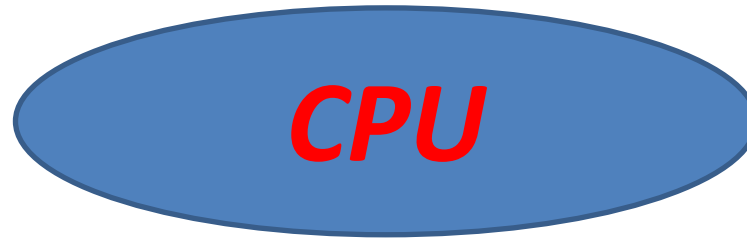
Computer Sound Blaster sound card



# Video Card

- *video card, also called graphics card, integrated circuit that generates the video signal sent to a computer display.*





(central processing unit)

## ***Main part of CPU***

**ALU**

(Arithmetic logical unit )

**MU**

(Memory Unit)

**CU**

(Control Unit)



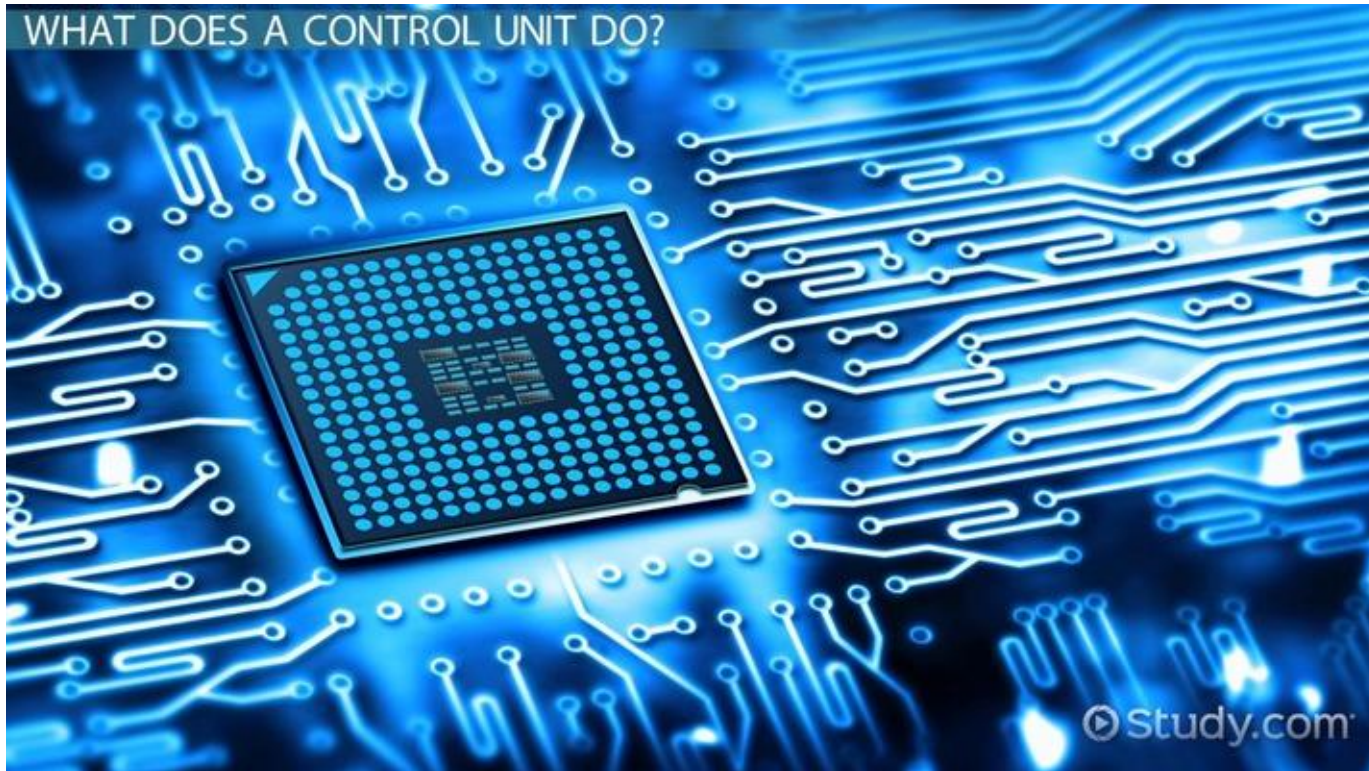


- Arithmetic logical unit it is responsible to control all the arithmetic operation (addition ,subtraction, multiplication and division) and logical comparison in the system.



# *CU*

- Control unit responsible to **control all the processes** or function in the computer.





**MU**

(memory unit)

## Two type of memory units

Primary memory or internal memory

1. RAM
2. ROM

Secondary memory or external memory

- ❖ 1.HDD
- ❖ 2.PEN DRIVE
- ❖ 3CD/DVD
- ❖ 4.FLOPPY DISCK
- ❖ 5.MAGNETIC TAPE

# Binary (0,1) Unit Chart

1 Bit = 0 or 1

1 Nibble = 4 bit

1 Byte = 8 bit

1024 byte = 1KB (Kilo byte)

1024 KB = 1 MB (Mega byte)

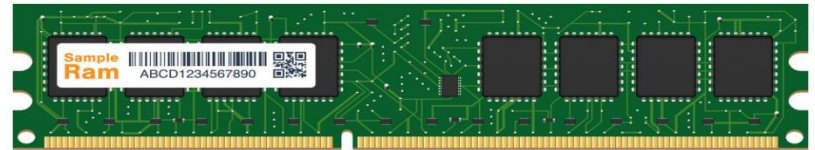
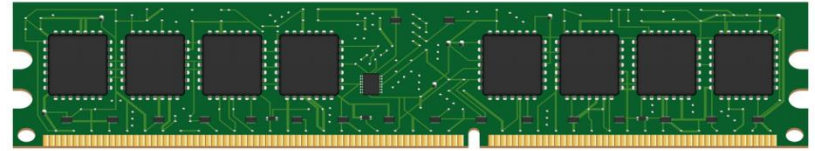
1024 MB = 1 GB (Giga byte)

1024 GB = 1 TB (Tera byte)

# RAM

## Random access memory

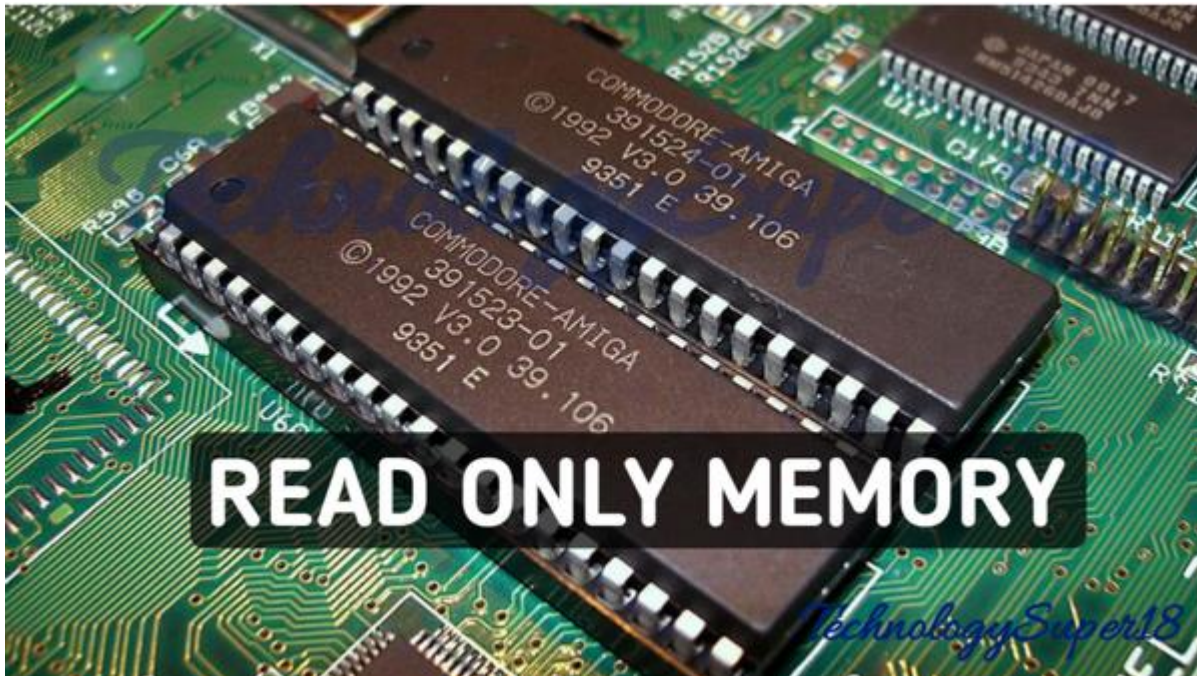
- RAM is generally known as **primary memory of the system** which provide working space in the system.
- It is volatile memory
- Temporary memory
- We can Read & Write



# ROM

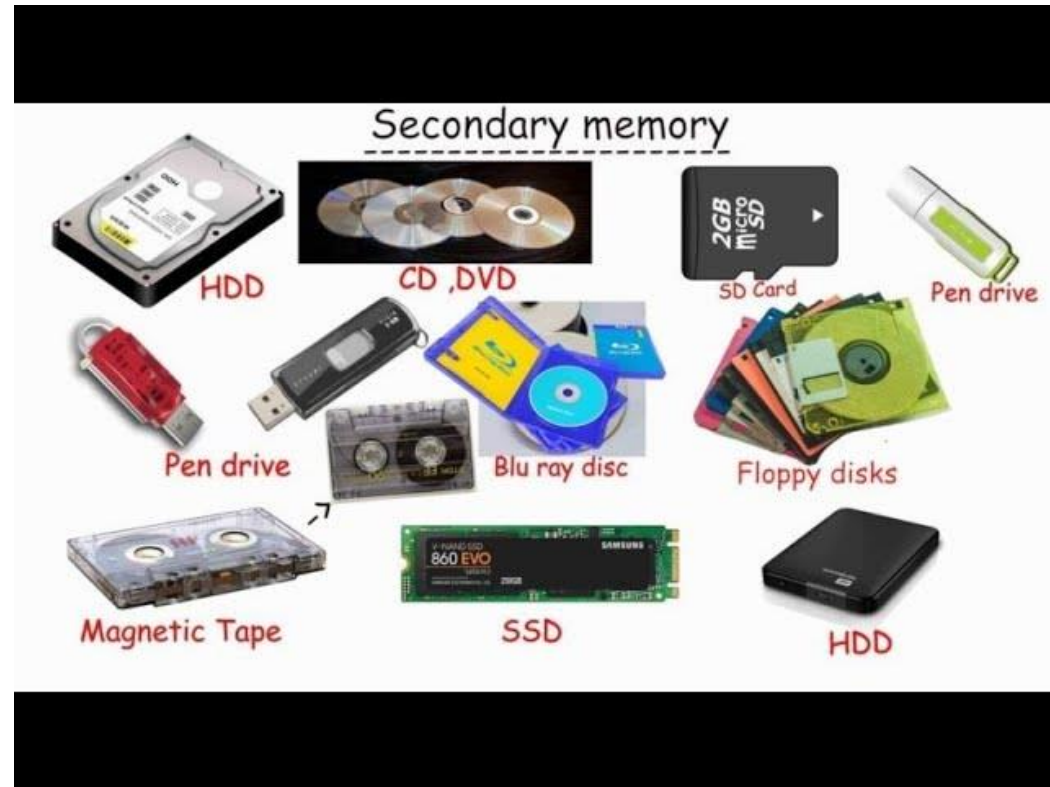
(Read only Memory)

- It is non-volatile memory
- Permanent memory
- Only we can read
- Read only memory is already saved in system.



# Secondary Memory

- It is a permanent storage of the computer which store data for next time use
- e.g. :- Hard disk , Pen drive, CD/DVD , etc.



- ***Computer Parts***

```
graph TD; A[• Computer Parts] --> B[Hardware]; A --> C[Firmware]; A --> D[Software];
```

Hardware

Firmware

Software

# Hardware

- ❑ Hardware devices are those device which can be touch

## TYPES OF HARDWARE





# Software

- ❑ All the programming part of computer is non as software that is used but **can not be touch.**

## TYPES OF SOFTWARE





# Firmware

- Firmware is a combination of hardware and software in which chip (IC) is taken as hardware but some programming done with in it.



# Component of CPU

- Motherboard

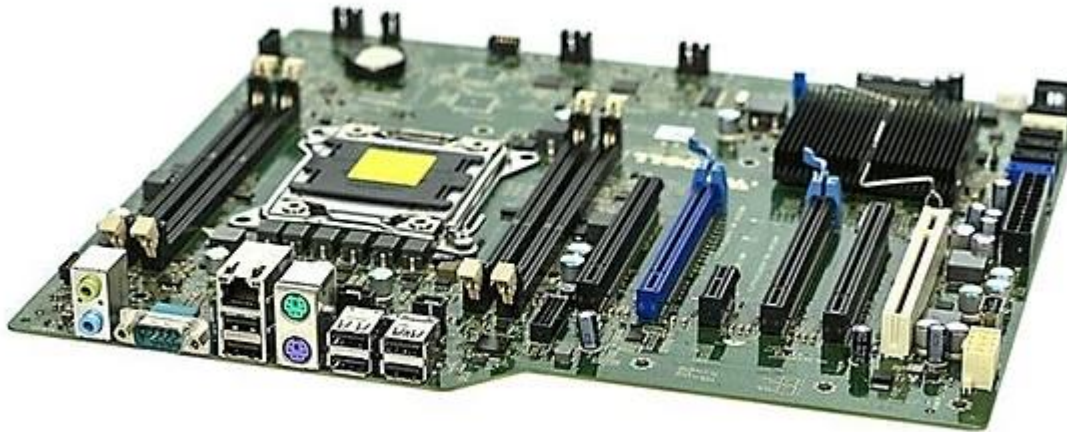
Hard disk

SMPS

CD/DVD Drive

# Motherboard

- Motherboard is a printed circuit board which provide centralized connectivity to all the components of the system.

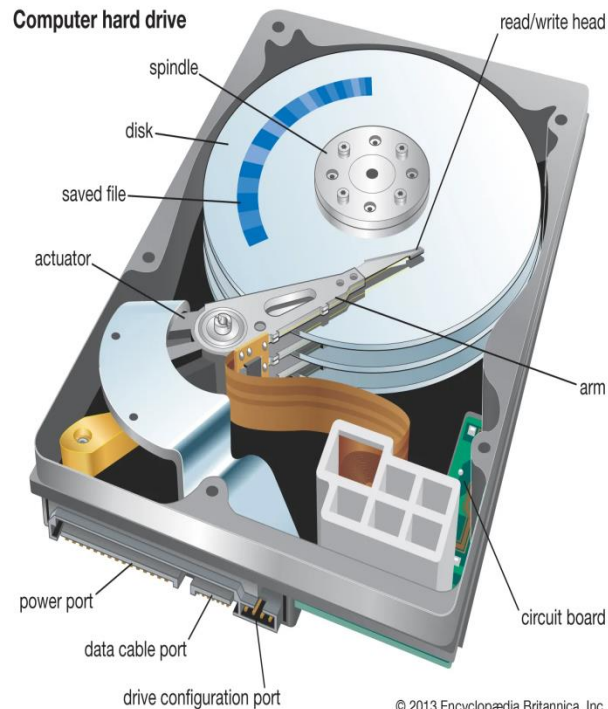


# ***Component of motherboard***

- Back panel
- Memory module
- PCI slot
- BIOS chip
- CMOS battery
- Front panel
- Processor socket
- North bridge
- South bridge
- SATA socket
- IDE socket
- Power connector

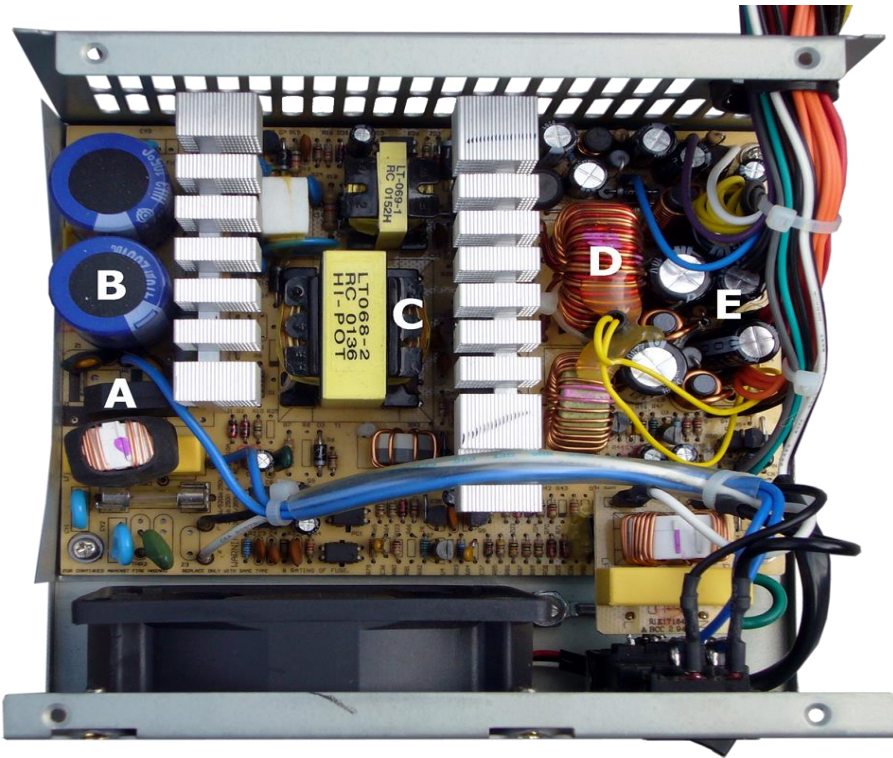
# Hard disk

- It is a permanent storage of the computer which store data for next time use



# SMPS

- Switch Mode Power Supply SMPS convert to AC to DC.





# Connector of SMPS

- 24 Pin Power connector
- 4 Pin Molex connector
- 4 Pin CPU Fan
- SATA Power connector





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