

Computer Science

➤ Introduction to Computer Science :

- Computer science is the study of **computers** and computing concepts. It includes both **hardware** and **software**, as well as networking and the **Internet**.

I. What is a Computer ?

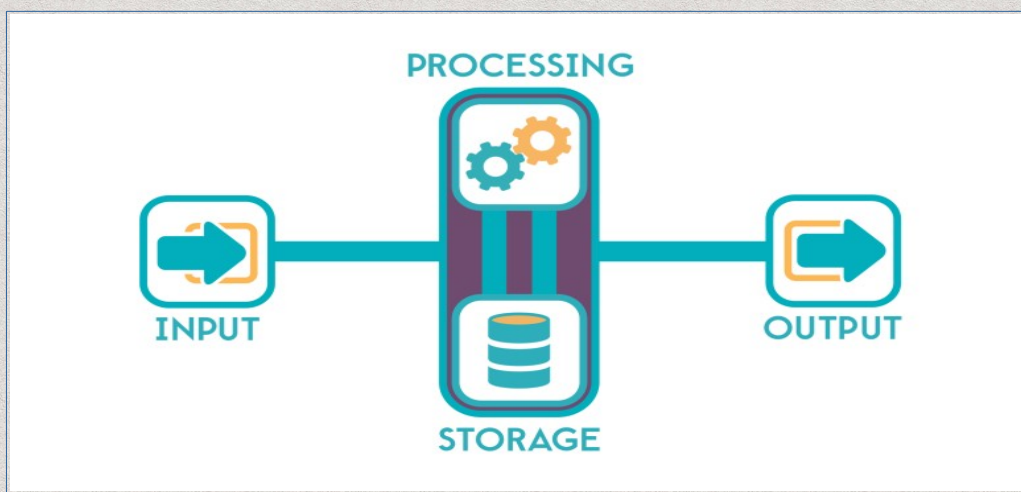
- Computers are everywhere around us, it may be in our pocket (Phone), in our Cars, in our bag-back (Ipad), these are some examples of computers that we use in our life :



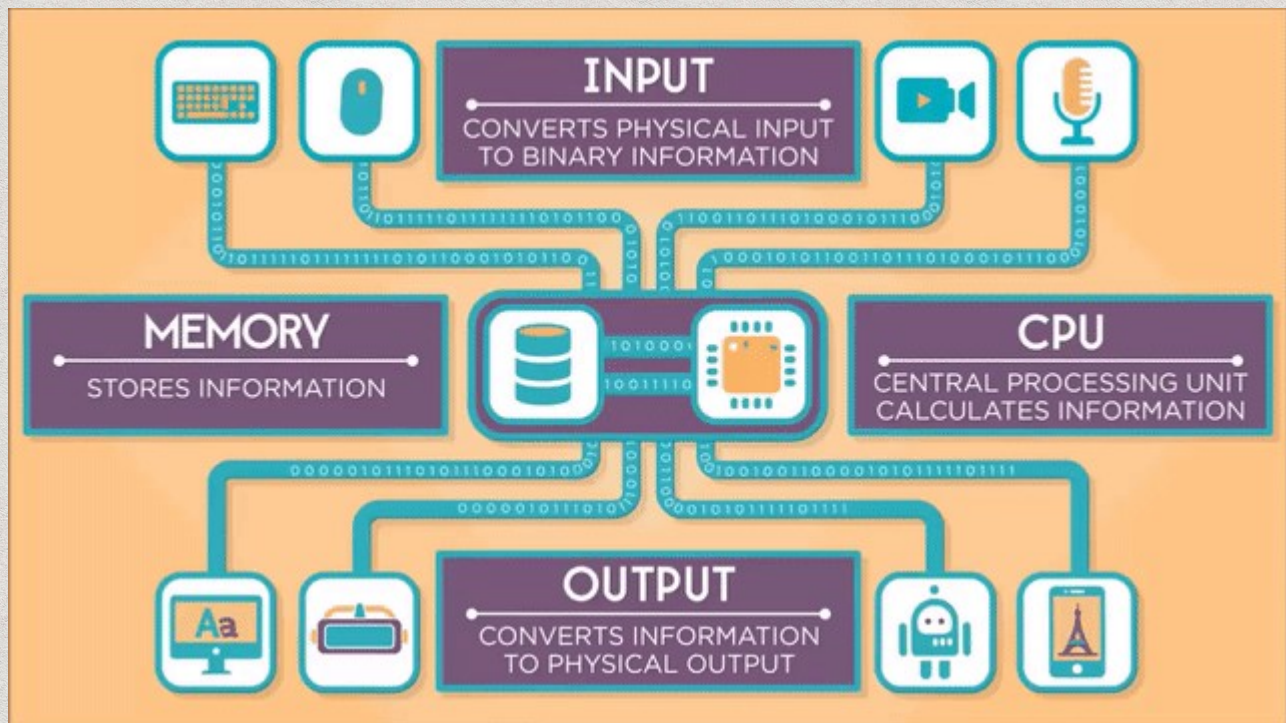
- A **Computer** is a machine or device that performs processes, calculations and operations based on instructions provided by a software or hardware program. It has the ability to accept data (input), process it, and then produce outputs.

II. How Computers work ?

- A computer is a machine that can be programmed to accept data (**input**), **process** it into useful information (**output**), and store it away (in a secondary **storage** device) for safekeeping or later reuse.
- There are four tasks that are common to all computers :
 - Take Input.
 - Store Information.
 - Process it.
 - Output the Result.



- This operation kinda looks like this :



1. Input :

-Taking information that is external to the system and entering it into the system. This may be a keyboard, mouse, finger touch, or microphone .

2. Storage & Processing :

- Input gives information to the computer, which is then stored in memory, the processor takes information from memory, and Processing in a computer system is handled by the Central Processing Unit (CPU), which calculate and manipulate the information using a series of commands (Algorithm) , and then the

processed information stored into the memory again, this operation continues until the processed information is ready to the **Output**.

3. Output :

- The Data that was processed is transmitted into a form that we as humans are able to interpret. That output may be a Photo, Text, sound ..., it depends on what your input.

III. What does the Computer contain ?

- Computers are separated into 2 parts, Hardware and software :

1. The **Software** part is simply the programs that we use such as Google Chrome, Microsoft Office, and applications, in other words Software is a set of instructions that tells a computer what to do or how to perform a task.

2. The **Hardware** part refers to the physical components of a computer. Computer Hardware is any part of the computer that we can touch.

Here are the main components of a computer :

- **CPU :**

- Central Processing Unit (CPU) is considered the most important component in a computer and for good reason. It handles most operations that make it function, by processing instructions and giving signals out to other components. The CPU is the main bridge between all the computer's major parts.



- **RAM :**

- Random Access Memory(RAM) is where the data used by the operating system and software applications stored, so that the CPU can process them quickly. Everything stored on RAM is lost if the computer is shut off.

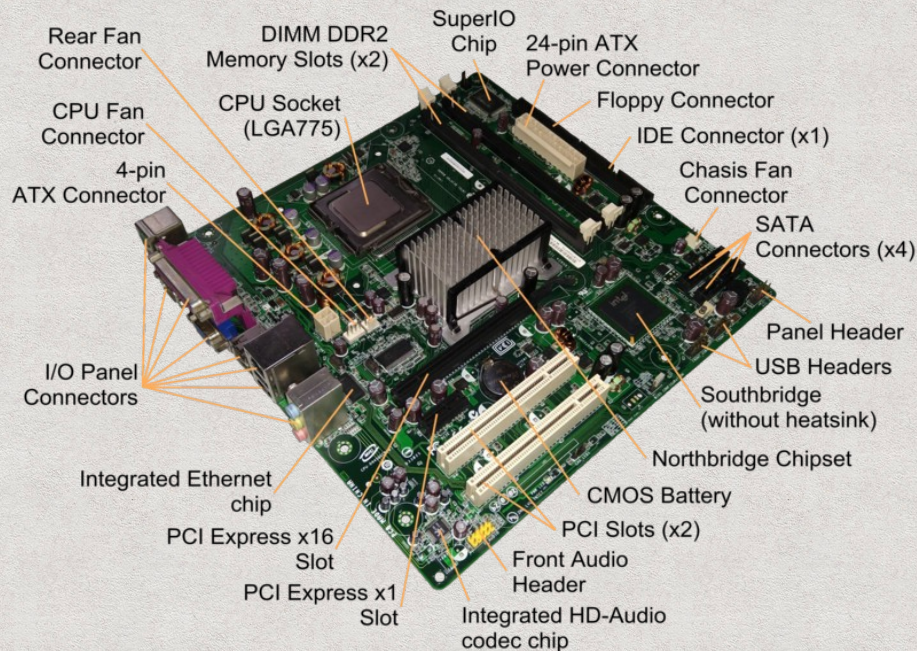


- **HDD :**

- known as Hard Disk Drive, it is the component where photos, apps, documents and such are kept. Although they are still being used.

- **Motherboard :**

- A motherboard is the main printed circuit board in a computer, it provides connectivity between the hardware components of a computer, like the processor (**CPU**), memory (**RAM**), hard drive, and video card.



Video Sound Cards :

- Two components which help the user interact with the computer. The sound card is used mainly to play sound through a speaker. However, a video card is used to send images on the screen. Without it, it would be like looking at an empty monitor.

Hope you enjoyed !