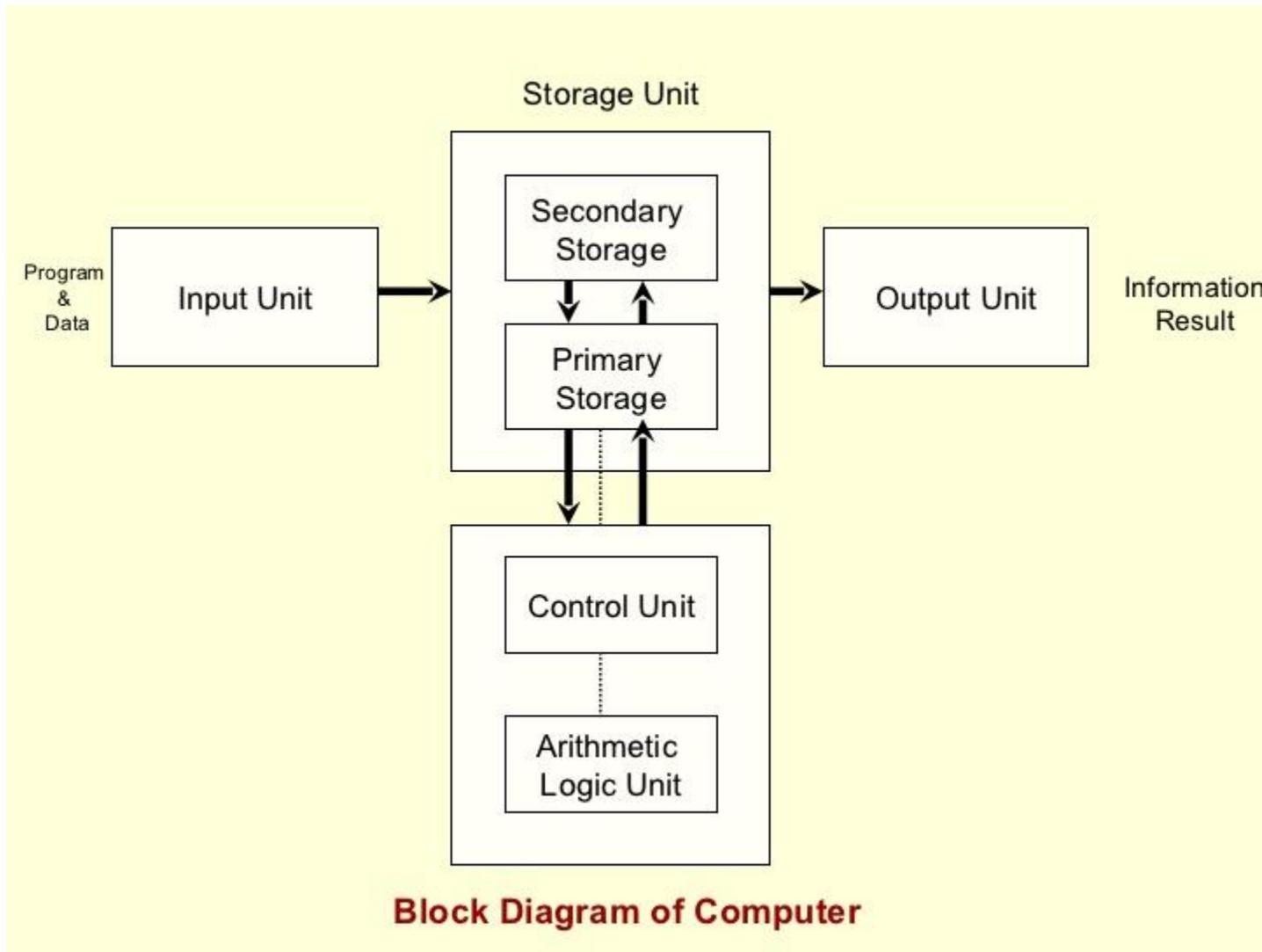


# Computer system

The central processing unit (CPU), memory and storage systems

Organization of computer or Functional diagram of the digital computer



A computer can process data, pictures, sound, and graphics. They can solve highly complicated problems quickly and accurately. It is because of

## 1. Input unit

Some input devices are: mouse, keyboard, joystick, image scanner, webcam, graphics tablet, microphone, etc. input devices functions are:

- It accepts the raw data and instruction from users.
- It converts raw data into a machine-understandable form.

- It supplied converted data to the computer system for further processing.

## 2. Output unit

Some output devices are monitor, printer, a visual display unit (VDU), etc. its functions are:

- It received finished data from computer systems.
- It converts finished data into the human understandable form.
- Supplies finished results in the outside world.

## 3. Storage unit

The storage unit of computer holds data and instructions and saved it to later use. The storage unit has two types:

### I. Primary memory (main or volatile memory)

Primary memory stores and provides speedy information. The primary memory is temporary. The data is lost when a computer is switched off. To store data permanently secondary memory is required. The cost of primary memory is more compared to the secondary memory.

### II. Secondary memory (Auxiliary or Non-volatile memory)

At first, the information is transferred to primary memory and after to the secondary memory. The secondary memory is slower and cheaper than s=primary memory. Some of the commonly used secondary devices are HARD DISK, CD, etc.

**Also, we differentiate between primary memory and secondary memory:**

<b>Primary memory</b>	<b>Secondary memory</b>
It is a semi-counter memory.	It is a magnetic and optical memory.
It has a high cost and small size.	It has low cost and large size.
It storing capacity is small compared with secondary memory.	Its storing capacity is enormous.
It also called volatile memory because of it not transferable with other systems or devices.	It also called non-volatile memory because it is transferable with one or more devices.

### **3. The central processing unit (CPU)**

The control unit (CU) and the arithmetic logic unit (ALU) of the computer together known as the central processing unit (CPU). It is a brain of the computer. Like a brain it performs the following functions:

- It performs all calculations.
- It controls all units of the computer.
- It takes all decisions, etc.

It is the combination of CU and ALU,

#### **I. Arithmetic logic unit (ALU)**

All calculations are performed in the arithmetic logic unit (ALU) of the computer. It also does a comparison and takes the decision. The ALU can perform basic operation such as addition, subtraction, multiplication, division, etc and logic operations via  $>$ ,  $<$ ,  $=$ , etc.

#### **II. Control unit (CU)**

It acts as a nervous system for the computer. It controls all other units in the computer. It controls unit instructs the input unit, where to store the data after receiving from the user. It controls the flow of data and instructions from the storage unit to ALU.