***Basic Design of a Computer***

**1. CPU (Central Processing Unit):**

The CPU is often considered the brain of the computer. It performs instructions and calculations required to execute programs.

# **Description:**

* The CPU consists of several components including the control unit, arithmetic logic unit (ALU), and registers.
* The control unit coordinates the activities of other components, fetches instructions from memory, decodes them, and controls the flow of data.
* The ALU performs arithmetic and logical operations on data.
* Registers store data temporarily for processing.

# **2. Memory:**

Memory is used to store data and instructions required for the execution of programs. It can be categorized into primary and secondary memory.

### **Description:**

* **Primary Memory:**
  + Also known as RAM (Random Access Memory).
  + It is volatile, meaning its contents are lost when the power is turned off.
  + Stores data and instructions that are currently being used by the CPU.
* **Secondary Memory:**
  + Examples include hard disk drives (HDDs) and solid-state drives (SSDs).
  + It is non-volatile, meaning its contents are retained even when the power is turned off.
  + Used for long-term storage of data and programs.

# **3. Input/Output Devices:**

Input and output devices allow users to interact with the computer and receive output from it.

## **Description:**

* **Input Devices:**
  + Examples include keyboards, mice, touchpads, scanners, and microphones.
  + Used to input data and commands into the computer.
* **Output Devices:**
  + Examples include monitors, printers, speakers, and projectors.
  + Used to display output from the computer, such as text, graphics, and sound.