Definition of Computer: A computer is an electronic device that operates under the control of a set of instructions stored in its memory. It is capable of accepting data as input, processing this data according to specific rules, producing information as output, and storing the results for future use.


Functions of a Computer: In general, any digital computer performs five basic functions:

1. Data input.
2. Data processing.
3. Information output.
4. Data and information storage.
5. Control and coordination of operations.

Computer Components: A computer system consists of two main parts: Hardware and Software.

Hardware: Hardware refers to all the physical and tangible components of a computer system. These include devices such as the monitor, keyboard, mouse, storage units, hard disk, and the system unit which contains the motherboard, processor, memory, and sound and graphics cards.

Input Devices: Input devices are hardware components used to enter data and control signals into a computer. They convert data from a human-understandable form into a form that the computer can process. The most commonly used input devices are the keyboard and the mouse.

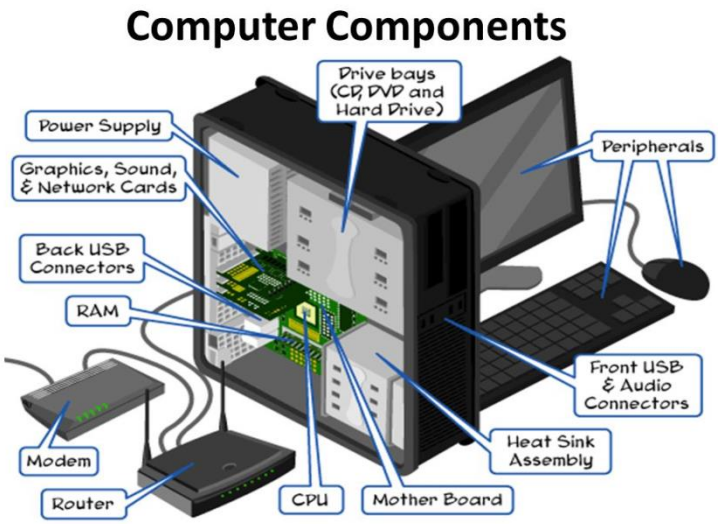
Examples of Input Devices: Keyboard, mouse, microphone, touch screen, scanner, webcam, touchpad, digital camera, graphics tablet, electronic pen, joystick, barcode reader, and other similar devices.

Note: The most common type of keyboard is the QWERTY keyboard. A standard keyboard usually consists of 104 keys.

Central Processing Unit (CPU): The Central Processing Unit is considered the brain of the computer. It is responsible for executing instructions, performing calculations, and controlling all operations within the computer system. It is the most important component in terms of computing power.

The CPU consists of three main parts:

1. Arithmetic Logic Unit (ALU): Responsible for performing arithmetic operations such as addition, subtraction, multiplication, and division, as well as logical operations like comparison.
2. Control Unit (CU): Responsible for directing and coordinating the activities of all computer components. It reads instructions from memory and ensures their correct execution.
3. Registers: Small, very fast storage locations used to temporarily store data and instructions that are currently being processed.



Primary Memory:

1. Random Access Memory (RAM): RAM is a temporary memory used to store data and programs while the computer is running. It is volatile, meaning that its contents are lost when the power is turned off.
2. Read Only Memory (ROM): ROM is a permanent memory that stores essential instructions required to start and operate the computer. Its contents are not lost when the power is turned off and cannot be modified.

Secondary Memory: Secondary memory is used to store data and programs permanently. The stored information is retained even after the computer is turned off.

Types of Secondary Memory:

1. Hard Disk: A hard disk is used to store large amounts of data and provides relatively fast access to stored information.
2. Optical Disks: Optical storage devices use laser technology to read and write data. Common types include CDs, DVDs, and Blu-ray discs, with storage capacities ranging from several hundred megabytes to tens of gigabytes.
3. Flash Disk: A flash disk is a portable storage device based on flash memory chips. It has no mechanical parts and is widely used due to its small size, durability, and ease of use.

Output Devices: Output devices are hardware components used to present the results of data processing in a form that can be easily understood by users.

Examples of Output Devices: Monitor, printer, speakers, projector, plotter, and other visual or audio output devices.

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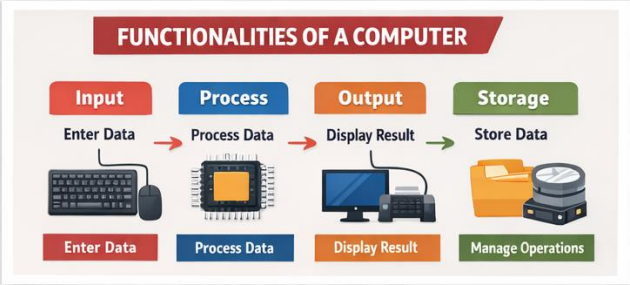
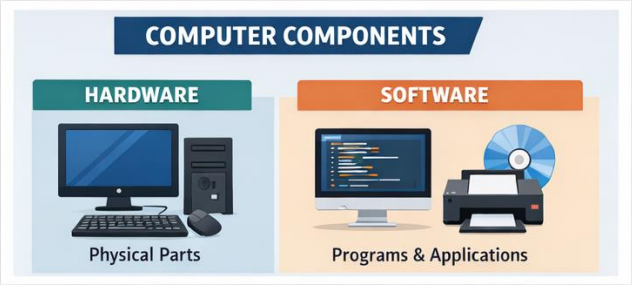
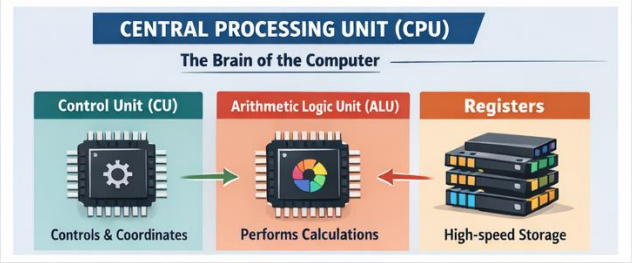
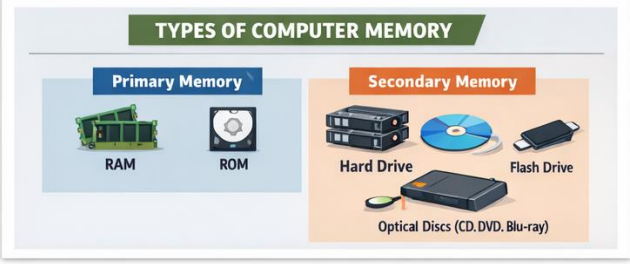

FUNCTIONALITIES OF A COMPUTER
Input
Process
Output
Storage
Enter Data
Process Data
Display Result
Store Data
Enter Data
Process Data
Display Result
Manage Operations


COMPUTER COMPONENTS
HARDWARE
SOFTWARE
Physical Parts
Programs & Applications


INPUT DEVICES
Keyboard
Mouse
Microphone
Scanner
Touch Screen
Webcam
Digital Camera
Graphics Tablet


CENTRAL PROCESSING UNIT (CPU)
The Brain of the Computer
Control Unit (CU)
Arithmetic Logic Unit (ALU)
Registers
Controls & Coordinates
Performs Calculations
High-speed Storage


TYPES OF COMPUTER MEMORY
Primary Memory
Secondary Memory
RAM
ROM
Hard Drive
Flash Drive
Optical Discs (CD, DVD, Blu-ray)


OUTPUT DEVICES
Monitor
Printer
Speakers
Projector