

Basic Computer

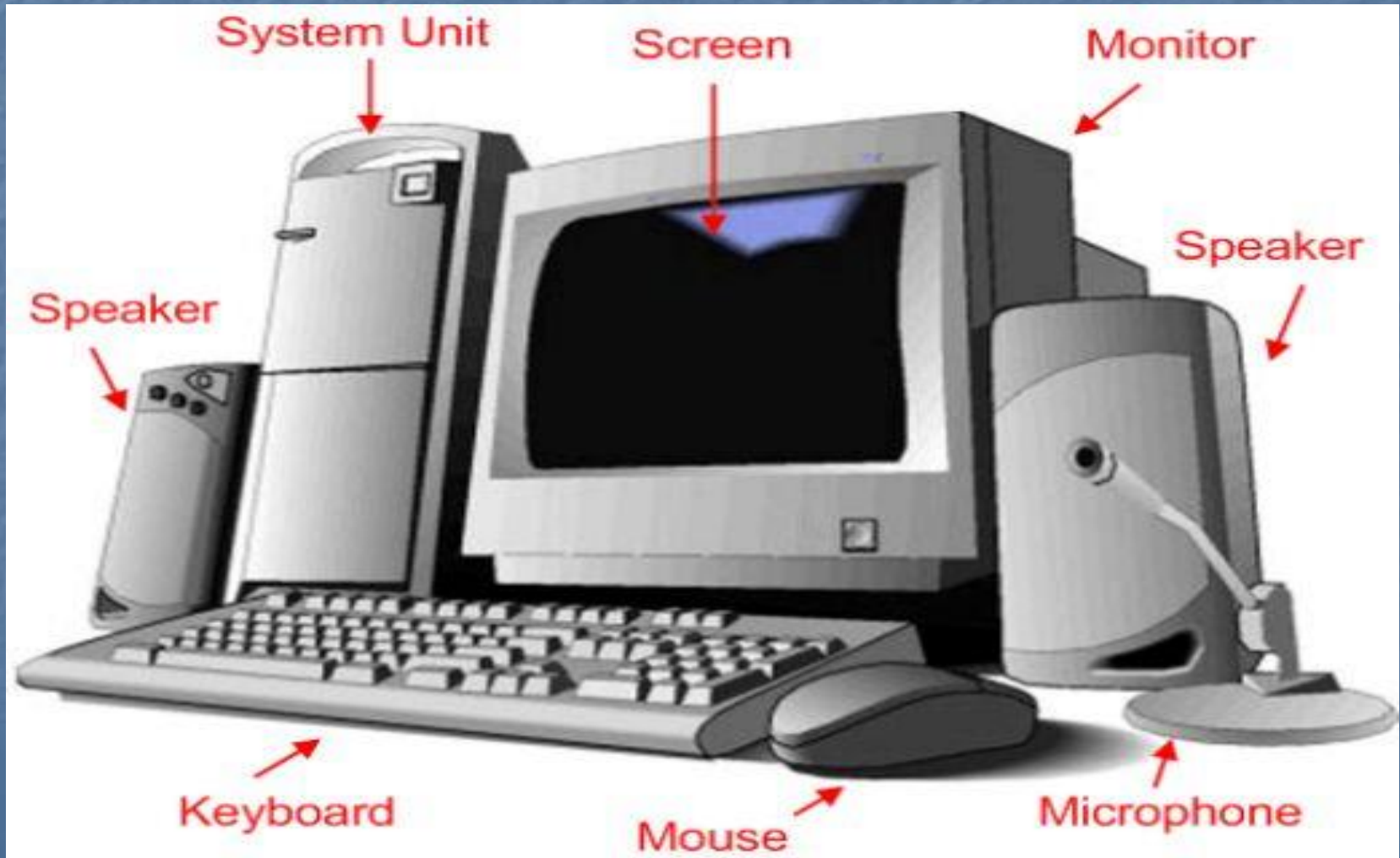


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Definition of Computer

- A device that computes, especially a programmable electronic machine that performs high-speed mathematical or logical operations or that assembles, stores, correlates, or otherwise processes information.



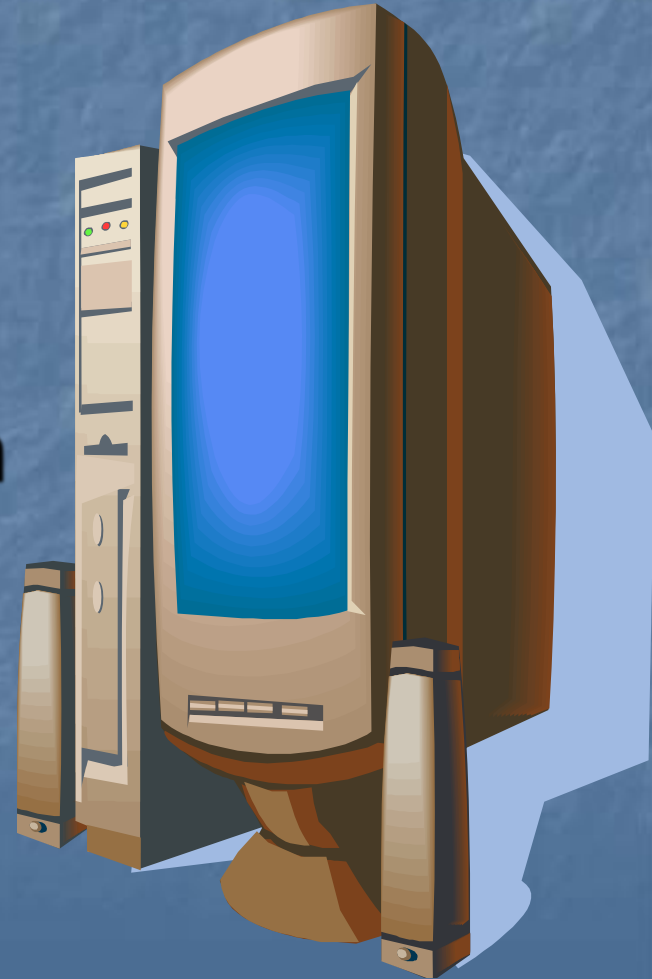
Computers Have Two Main Parts

1. Computer Hardware
2. Computer Software



What is Computer Hardware?

- Computer Hardware is the physical part of the computer system, the machinery and equipment.
- Parts of the computer “you can see”



Examples of Computer Hardware



Monitor: T.V. like screen used to show pictures and words



CPU: Central Processing Unit this is where most of the computer's calculations take place. In terms of computing power, the CPU is the most important element of a computing system.



Keyboard: This device is used to type information into the computer and contains the numbers 0-9.

More Computer Hardware



Mouse: a small device, which you move across the top of the desk to move the pointer or cursor on the screen.



Printer: used to make a paper copy of the information into the computer.



Image Scanner: an electronic device that generates a digital representation of an image for data input to a computer

What is Computer Software?

- Computer Software are programs that tell the computer what to do.

Examples

- Microsoft Word-word processing program
- Microsoft PowerPoint-presentation program
- Microsoft Excel-work book program used to track, calculate, and analyze numeric data

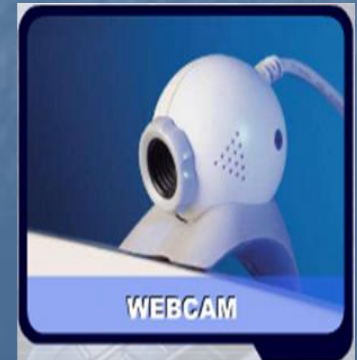


Computer Input Devices

- Computer Devices that input information in the computer

Examples

- Key Board
- Mouse
- Scanner
- Digital Camera



Computer Output Devices

- Computer Devices that output information from the computer.

Examples

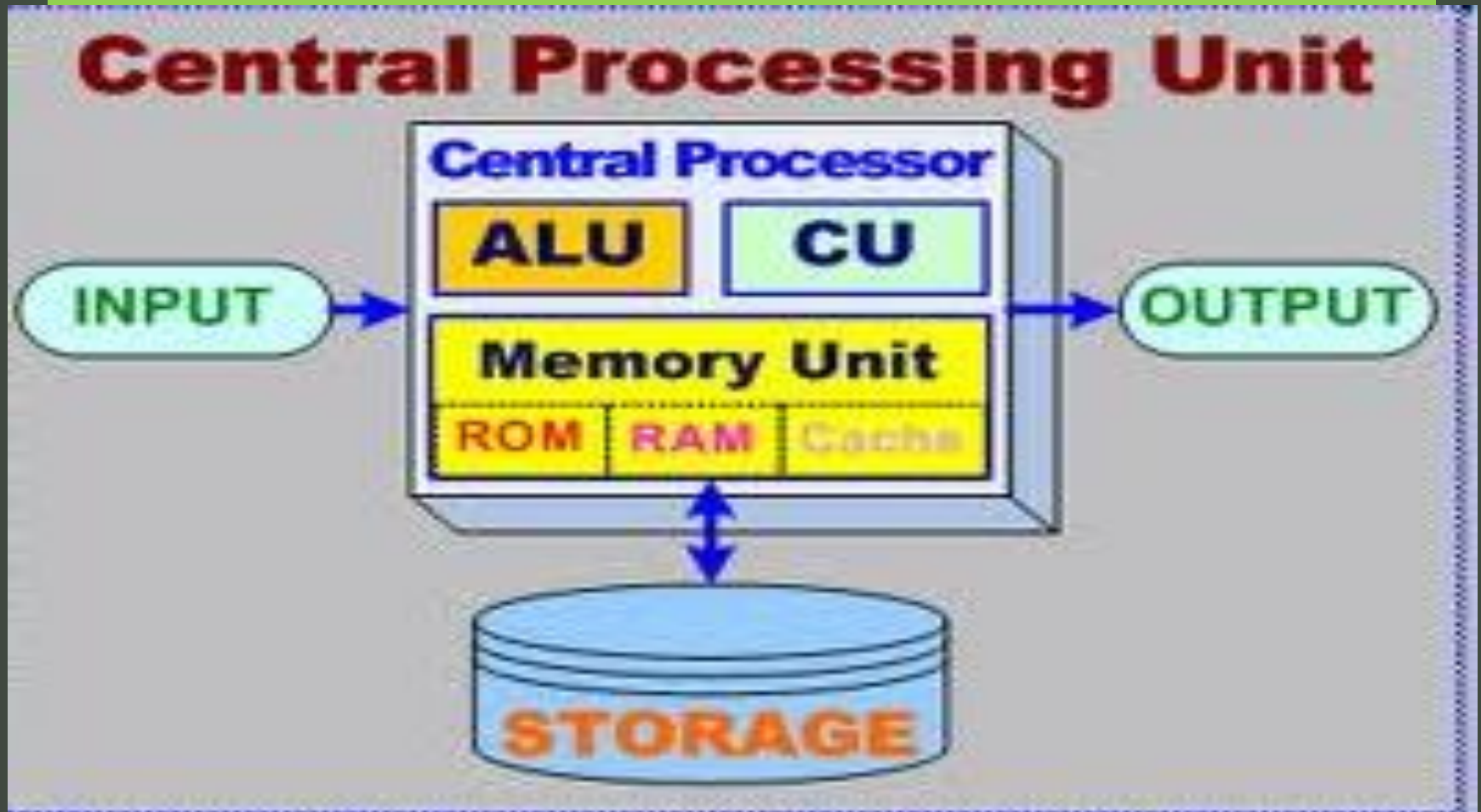
- Monitor
- Printer
- Speaker
- Headphones





The Central Processing Unit:
What Goes on Inside the Computer

The CPU



The CPU

- The central processing unit (CPU) is the portion of a computer system that carries out the instructions of a computer program, to perform the basic arithmetical, logical, and input and output operations of the system. It acts as the BRAIN OF COMPUTER



The CPU

- Converts data into information
- Control center
- Set of electronic circuitry that executes stored program instructions
- Two parts
 - Control Unit (CU)
 - Arithmetic Logic Unit (ALU)



Control Unit

CU

- Part of the hardware that is in-charge
- Directs the computer system to execute stored program instructions
- Communicates with other parts of the hardware



Arithmetic / Logic Unit

ALU

Performs arithmetic operations

Performs logical operations



Arithmetic Operations



Addition



Subtraction

Multiplication

Division



Logical Operations

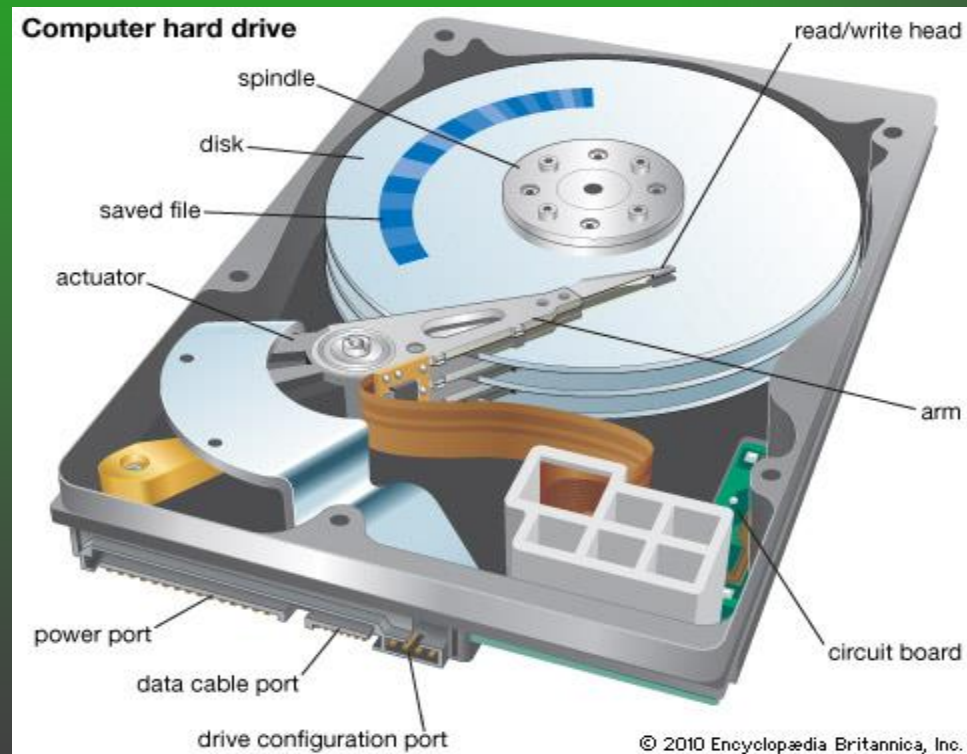
- Evaluates conditions
- Makes comparisons
- Can compare
 - Numbers
 - Letters
 - Special characters

AND
NOT
OR



Types of Storage

- Secondary
 - Data that will eventually be used
 - Long-term



Types of Storage

- Memory
 - Data that will be used in the near future
 - Temporary
 - Faster access than storage



Types of Storage

- Registers
 - Data immediately related to the operation being executed
 - Faster access than memory



Main Types of Memory

RAM

Random Access Memory

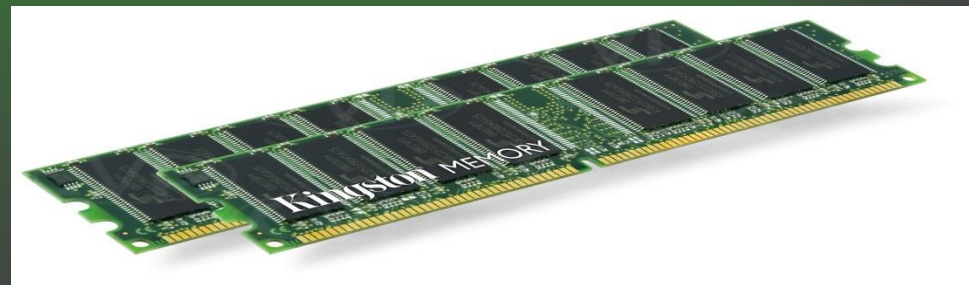
ROM

Read Only Memory



RAM Random Access Memory

- Random-access memory (RAM) is a form of computer data storage. A random-access memory device allows data items to be read and written in approximately the same amount of time, regardless of the order in which data items are accessed.



ROM Read Only Memory

- Read-only memory (ROM) is a class of storage medium used in computers and other electronic devices. Data stored in ROM can only be modified slowly, with difficulty, or not at all, so it is mainly used to distribute firmware (software that is very closely tied to specific hardware, and unlikely to need frequent updates).

