

COMPUTER PROGRAMMING

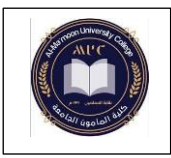
Laser and Optoelectronic Engineering Department



Lecturer 1

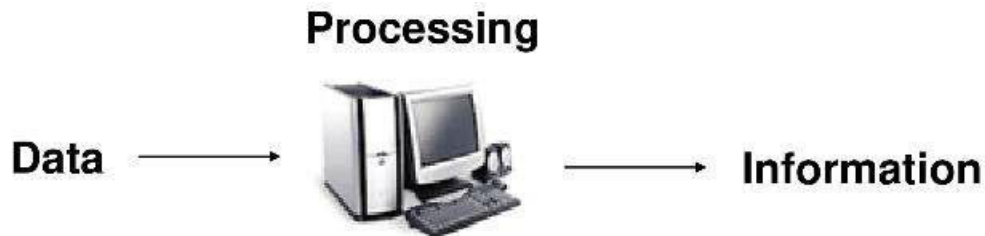
Introduction to Computers

- ❖ What is Computer?
- ❖ Computer Components
- ❖ Hardware Components



❖ What is Computer?

- **Computer:** is an electronic device which accepts data, processes it and returns new information as output.



- **data:** raw facts.
- **information:** meaningful data.

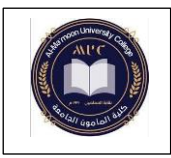
❖ Computer Components

The computer system has two main components which when both combined makes a computer system.

These are:

- Hardware
- Software

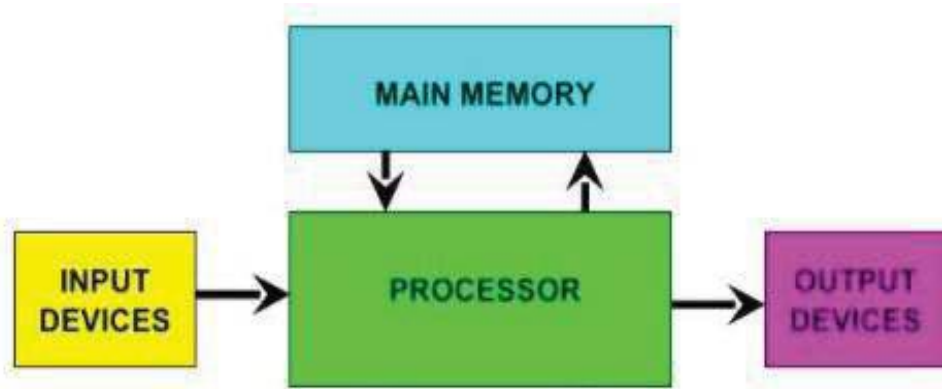




❖ Hardware Components

The major hardware components of a computer system are:

- Input devices
- Output devices
- Processor
- Memory



Input Devices

Input Devices are any electronic device that are connected to a computer to allow the user to input (insert) data to the computer.



KEYBOARD



MOUSE



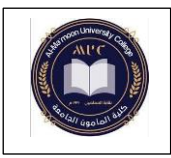
JOYSTICK



MICROPHONE



SCANNER



Output Devices

Output Devices: allow the user to output (display or print) information (readable form) from the computer.

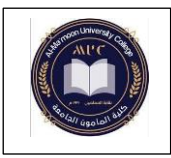


Processor

It is a small chip inside the computer. called the Central Processing Unit (CPU).

- It is the brain of computer.
- It does all decisions, calculations.
- It executes the instruction contained in software program (process data inside computer).
- It determines how fast your computer will run.
- It is measured by MHz (Mega Hertz).





CPU Parts

CPU have three basic parts.

1. Arithmetic and Logic Unit (ALU).

Performs arithmetic operations and logical operations.

2. Control Unit (CU).

It reads and interprets instructions from memory and transforms them into a series of signals to activate other parts of the computer.

3. Registers.

is the part of the computer that holds data and instructions for processing.

Memory

Hardware devices used to store data and information, this memory enables the user to get his data whenever he want.

CLASSIFICATION OF MEMORY

Broadly classified into two :

- Primary Memory (Main Memory).
- Secondary memory (secondary storage, mass storage).

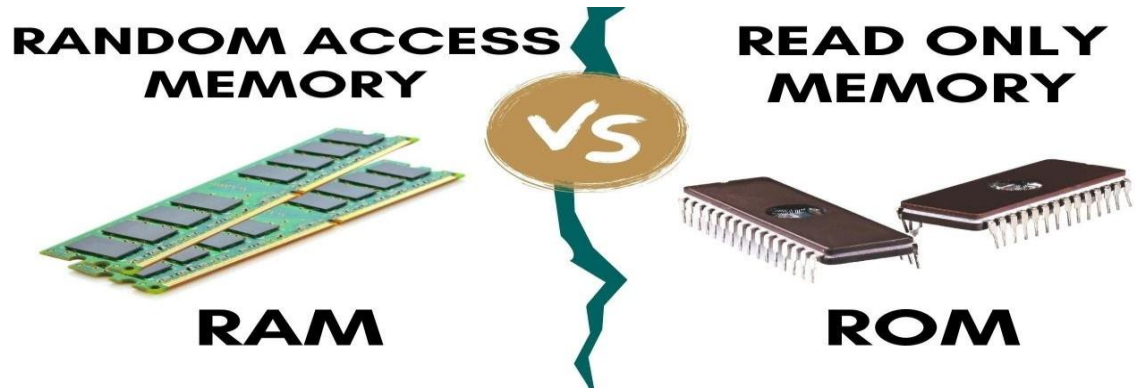
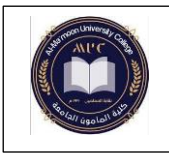
Primary Memory

Primary memory is the memory internal to the computer. i.e. the memory generally placed on the Mother board of the computer.

It can be further divided into two parts:

- RAM (Random Access Memory).
- ROM (Read Only Memory).





RAM	ROM
1. Temporary Storage.	1. Permanent storage.
2. Store data in MBs.	2. Store data in GBs.
3. Volatile.	3. Non-volatile.
4. Used in normal operations.	4. Used for the startup process of computers.
5. Writing data is faster.	5. Writing data is slower.

Secondary Memory

Secondary memory is the memory external to the computer. Also called storage devices, external Storage.

- for large storage of data.
- for permanent storage of data.

