

Computer science

First Stage

Introduction to computer science Lec1

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Computer hardware:

Computer hardware refers to the physical components that make up computer system, such as the case, central processing unit (CPU), monitor, mouse, keyboard, computer data storage, graphics card, sound card, speakers and motherboard.

Software:

is a set of instructions and documentation that tells a computer what to do or how to perform a task. Software includes all different programs on a computer, such as applications and the operating system.

Applications: are programs that are designed to perform a specific operation.

operating system: we will be talking about it later.

List of computer hardware:

- Motherboard
- Video
- Sound card
- Hard drive
- Optical drive
- USB ports
- Power supply

Motherboard:

The motherboard is the main component of a computer. It is a board with integrated circuitry that connects the other parts of the computer including the CPU, Primary Memory, Secondary Memory.

central processing unit (CPU):

is the electronic circuitry within a computer that executes instructions that make up a computer program, Or is the computer component that's responsible for interpreting most of the commands from the computers other hardware and software also called a central processor, main processor or just processor.

The CPU is comprised of three main parts:

- 1- Arithmetic Logic Unit (ALU):** Executes all arithmetic and logical operations. Arithmetic calculations like as addition, subtraction, multiplication and division. Logical operation like compare numbers, letters, or special characters.
- 2- Control Unit (CU):** directs the operation of the processor. It tells the computer's memory, arithmetic logic unit and input and output devices how to respond to the instructions that have been sent to the processor.
- 3- Registers:** Stores the data that is to be executed next.

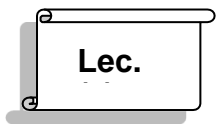
Primary Memory:

Random-access memory (RAM): Is the physical hardware inside a computer that temporarily stores data, serving as the computer working memory.

additional RAM allows a computer to work with more

information at the same time, which usually has a dramatic effect on total system performance.

Read-only memory (ROM): is a permanent form of storage. ROOM stays active regardless of whether power supply to it is turned on or off. ROM devices do not allow data stored on them to be modified.



Secondary Memory:

- 1- Hard drive
- 2- Optical Disk
- 3- Flash Disk