COMPUTER

Lecture 1

Second stage

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<u>Introduction to Computer</u>

Computer

A computer is an electronic device, operating under the control of instructions stored in its own memory that can accept data (input), process the data according to specified rules, produce information (output), and store the information for future use

Any digital computer carries out five functions in gross terms:

1- Takes data as input.

2- Stores the data\ instruction in its memory and use them when required.

3- Processes the data and converts it into useful information.

4- Generates the output

5- Controls all the above four steps.

Introduction to Computer

Figure 1: Computer Function

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Computer Components

Any kind of Computers consist of:

1. HARDWARE .
2. SOFTWARE .

HARDWARE:

• Computer hardware is the collection of physical elements that constitutes a computer system. Computer hardware refers to the physical parts or components of a computer such as the monitor, mouse, keyboard, computer data storage, hard drive disk (HDD), system unit (graphic cards, sound cards, memory, motherboard and chips), etc. all of which are physical objects that can be touched.
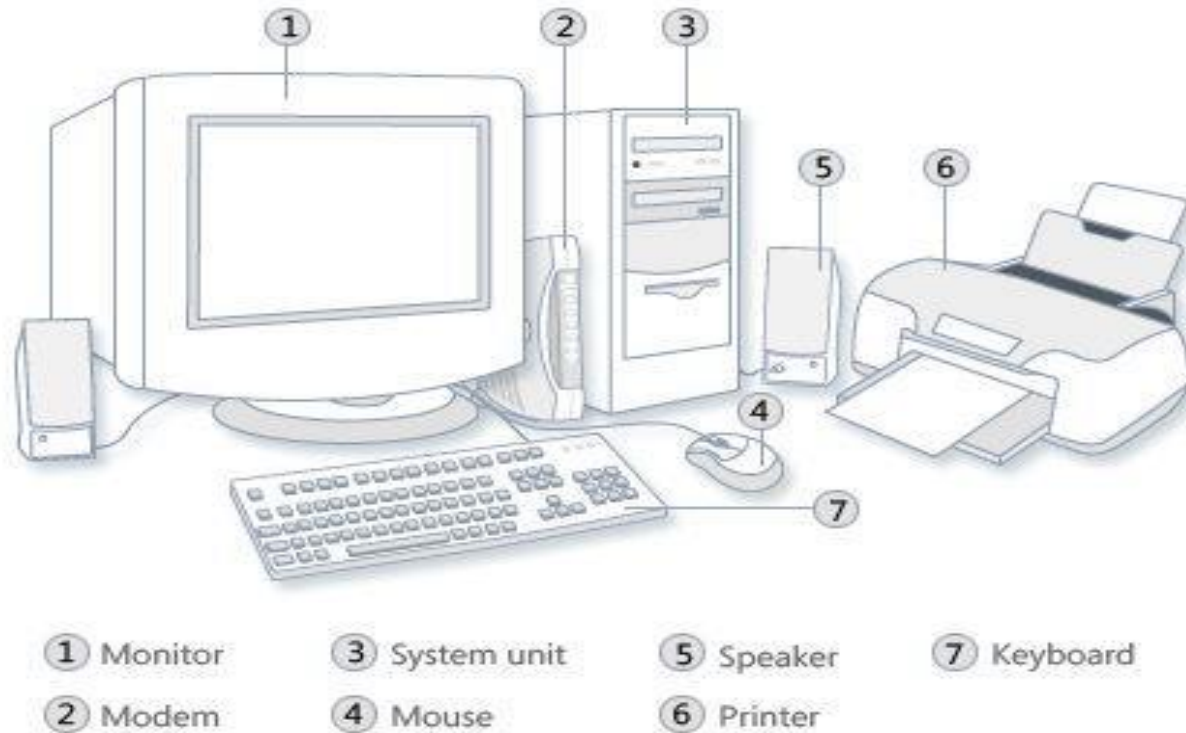
Computer Components

Figure 2: Computer Hardware

Computer Components

HARDWARE:

1. Input Devices

2. Central Processing Unit (CPU)

3. Memory

4. Output devices

Computer Components

- **HARDWARE**

1. **Input Devices**

Input device is any peripheral (piece of computer hardware equipment to provide data and control signals to an information processing system such as a computer or other information appliance.

Computer Components

- **HARDWARE**

2. Central Processing Unit (CPU)

A CPU is brain of a computer. It is responsible for all functions and processes. Regarding computing power, the CPU is the most important element of a computer system.

The CPU is comprised of three main parts:

a. **Arithmetic Logic Unit (ALU)**
b. **Control Unit (CU)**
c. **Registers**

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Computer Components

- **HARDWARE**

a. **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

b. **Control Unit (CU) :** controls and co-ordinates computer components.

- **Registers :** Stores the data that is to be executed next, "very fast storage area".
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