Al-Mustaqbal University
College of Sciences
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جامعة المستقبل
AL MUSTAQBAL UNIVERSITY

كلية العلوم
قسم علوم التقانة الاحيائية الطبية

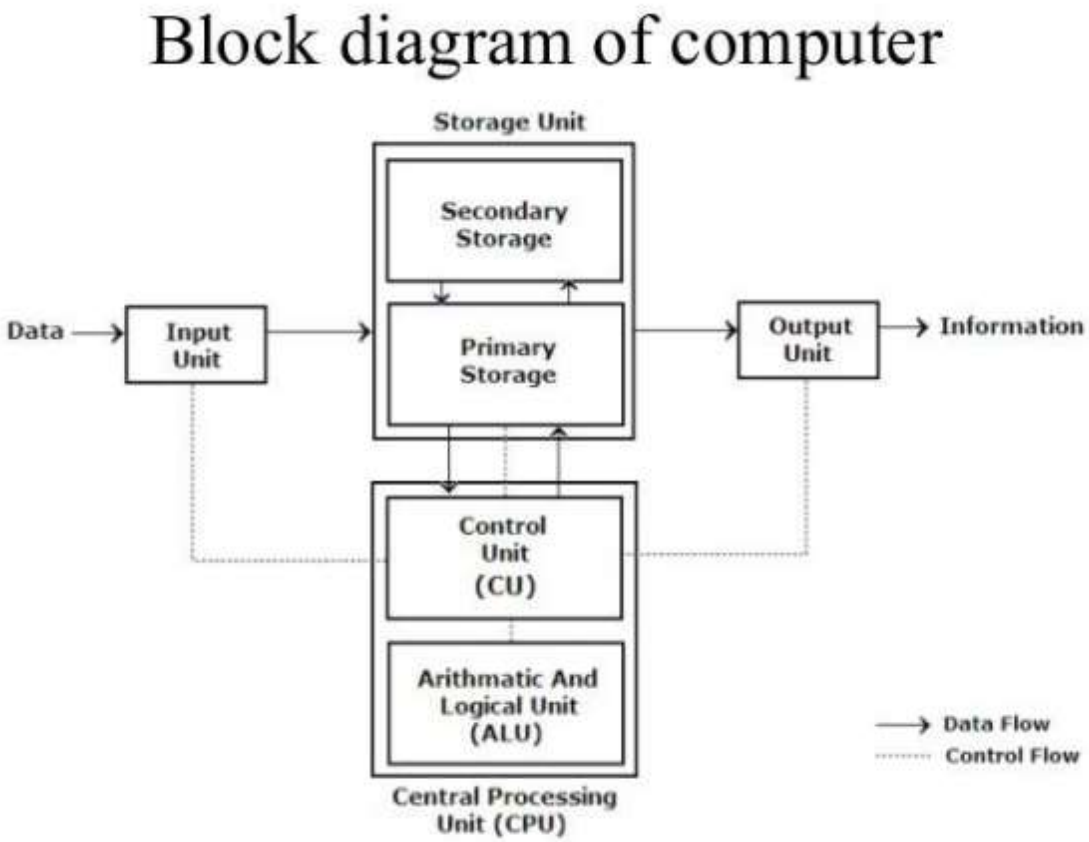
Lecture: (2)

Computer Components I

Subject: Computer Skill I
Level: First
Lecturer: Dr. Maytham Nabeel Meqdad

Block Diagram of Computer

A digital computer is considered to be a calculating device that can perform arithmetic operations at enormous speed. It is defined as a device that operates upon information/data. To be able to process data the computer is made of various functional units to perform its specified task.



Input Unit: Computers need to receive data and instruction in order to solve any problem. Therefore, we need to input the data and instructions into the computers. The input unit consists of one or more input devices. Keyboard is the one of the most commonly used input device. Other

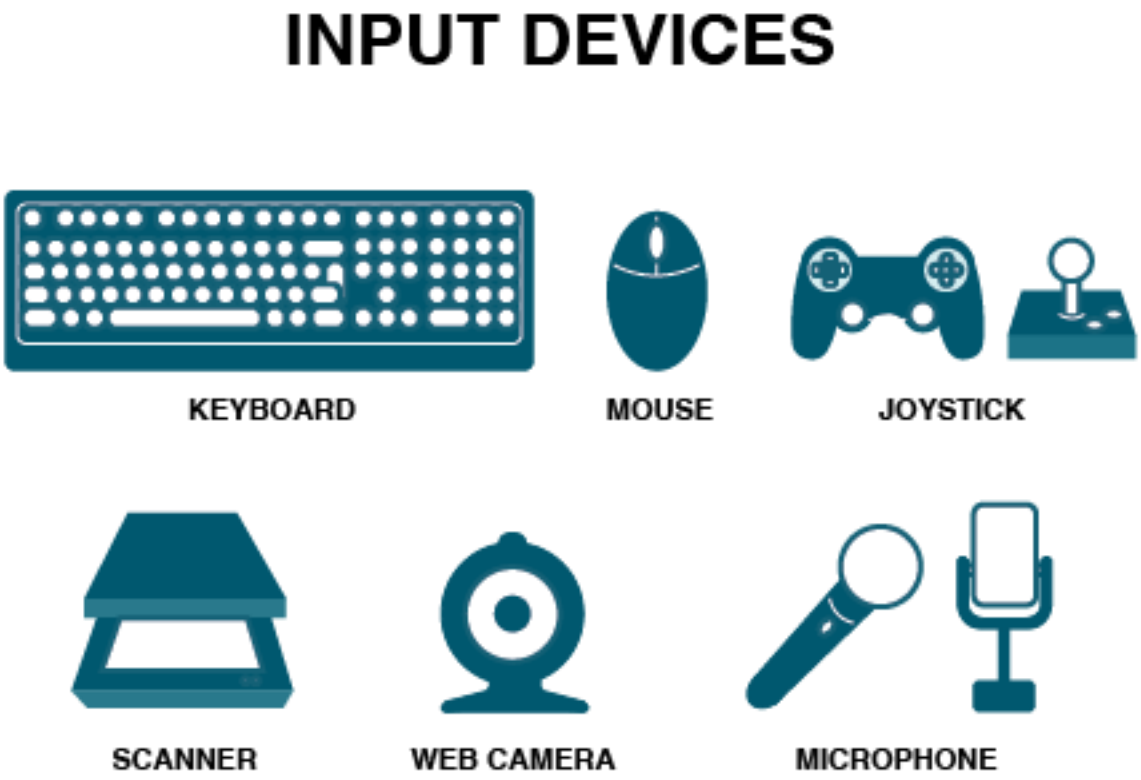
commonly used input devices are the Mouse, Scanner, Microphone etc. All the input devices

perform the following functions.

• Accept the data and instructions from the outside world.

• Convert it to a form that the computer can understand.

• Supply the converted data to the computer system for further processing.



Storage Unit:

The storage unit of the computer holds data and instructions that are entered through the input unit, before they are processed. It preserves the

intermediate and final results before these are sent to the output devices. It also saves the data for the later use. The various storage devices of a computer system are divided into two categories.

a) Primary Storage: Stores and provides very fast. This memory is generally used to hold the program being currently executed in the computer, the data being received from the input unit, the intermediate and final results of the program. The primary memory is temporary in nature. The data is lost, when the computer is switched off. In order to store the data permanently, the data has to be transferred to the secondary memory. The cost of the primary storage is more compared to the secondary storage. Therefore, most computers have limited primary storage capacity.

b) Secondary Storage: Secondary storage is used like an archive. It stores several programs, documents, data bases etc. The programs that you run on the computer are first transferred to the primary memory before it is actually run. Whenever the results are saved, again they get stored in the secondary memory. The secondary memory is slower and cheaper than the primary memory. Some of the commonly used secondary memory devices are Hard disk, CD, etc.

COMPUTER STORAGE OR MEMORY DEVICES

Hard Disk

RAM

ROM

CD/DVD

Floppy

Memory Card

Pen Drive

Tape

Output Unit:

The output unit of a computer provides the information and results of a computation to outside world. Printers, Visual Display Unit (VDU) are the commonly used output devices. Other commonly used output devices are Speaker, Headphone, Projector etc.

Arithmetic Logical Unit:

All calculations are performed in the Arithmetic Logic Unit (ALU) of the computer. It also does comparison and takes decision. The ALU can perform basic operations such as addition, subtraction, multiplication, division, etc and does logic operations viz, >, <, =, 'etc. Whenever calculations are required, the control unit transfers the data from storage unit to ALU once the computations are done, the results are transferred to the storage unit by the control unit and then it is send to the output unit for displaying results.

Control Unit:

It controls all other units in the computer. The control unit instructs the input unit, where to store the data after receiving it from the user. It controls the flow of data and instructions from the storage unit to ALU. It also controls the flow of results from the ALU to the storage unit. The control unit is generally referred as the central nervous system of the computer that control and synchronizes its working.

Central Processing Unit:

The Control Unit (CU) and Arithmetic Logic Unit (ALU) of the computer are together known as the Central Processing Unit (CPU). The CPU is like brain performs the following functions:

- It performs all calculations.
- It takes all decisions.
- It controls all units of the computer.