



AL MUSTAQBAL UNIVERSITY
COLLEGE OF DENTISTRY

COMPUTER SCIENCE

Lecture 1

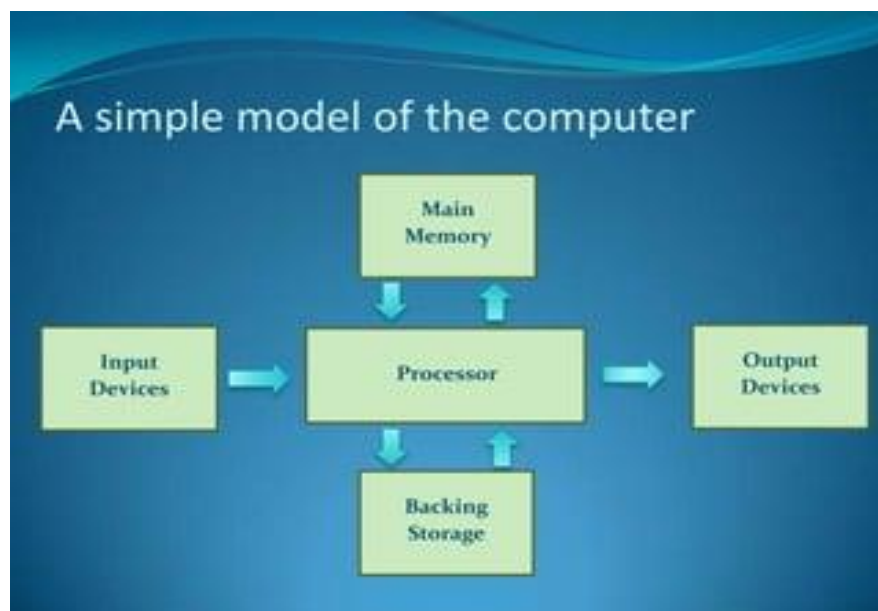
By

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Computer Organization :

Computer : - Electronic device that accepts input, stores large quantities of data, execute complex instructions which direct it to perform mathematical and logical operations and outputs the answers in a human readable form.
(See fig. 1)



(Fig.1) A Simple Model of the Computer .



Types of computers :

Super computers :

Are used to process very large amounts of information including processing information to predict hurricanes .

Mainframes

Are used by Government and Businesses to process very large amounts of information.

Mini-Computers

Personal Computers (PC)

They are used in homes, schools, and small businesses.

Types of computer



Mini computer



Super computer



Micro computer



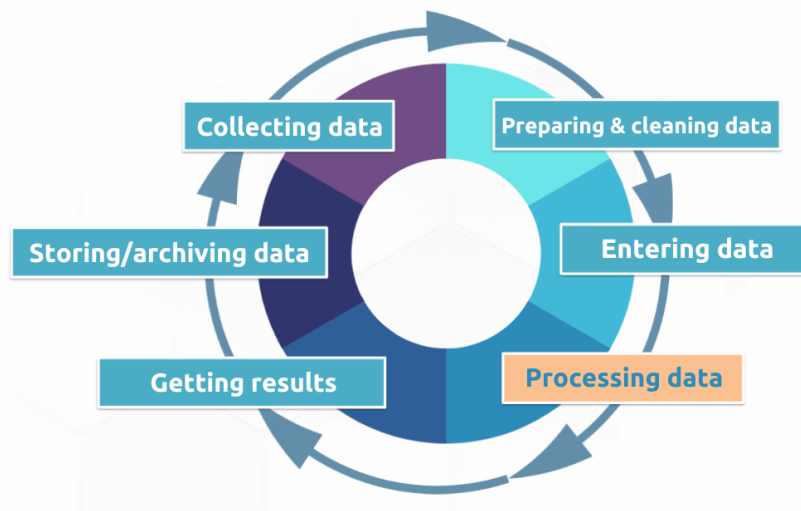
Mainframe computer

(Fig.2)



Advantages of computer system:

- 1- Store and retrieve large quantities of data.
- 2- The speed is faster than in any other form of data processing.
- 3- A single computer can perform a wide variety of activities as directed by a set of instructions (program).
- 4- Once data and instructions are fed into the computer, processing is continuous with a minimum of human intervention.
- 5- Data and programs may be stored inside the computer indefinitely and be retrieved quickly.
- 6- Accuracy is greater than any other system.



(Fig.3)

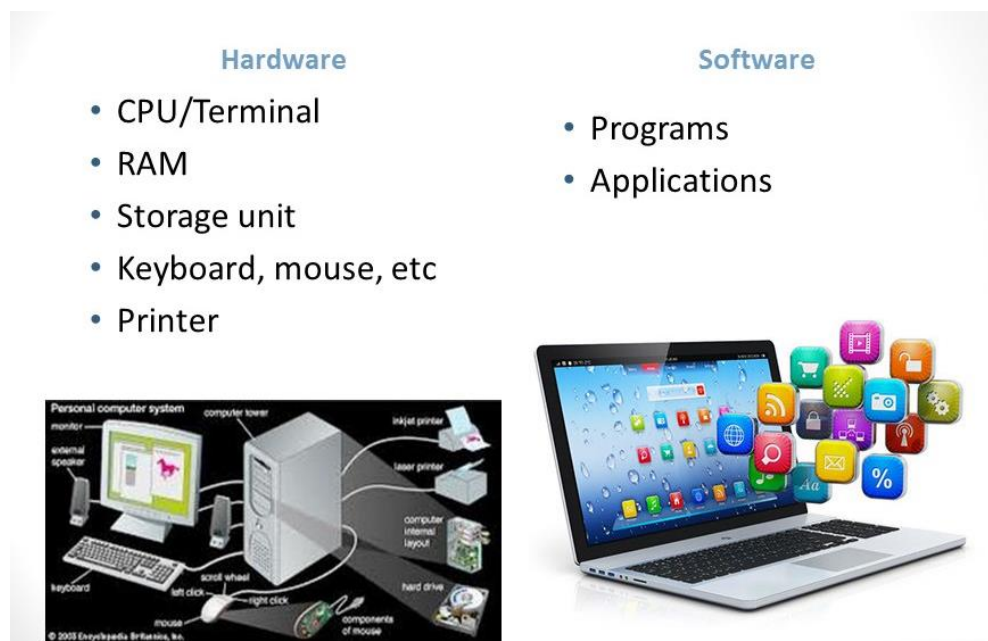


Computer Structure :

Computer System Are Made Of Two Main Parts: -

1- Hardware: refers to the physical components of the computer (electronic and mechanical parts) such as: -Keyboard, memory, printer...

2- Software: refers to programs, languages, procedures and instructions that make the hardware work for us.



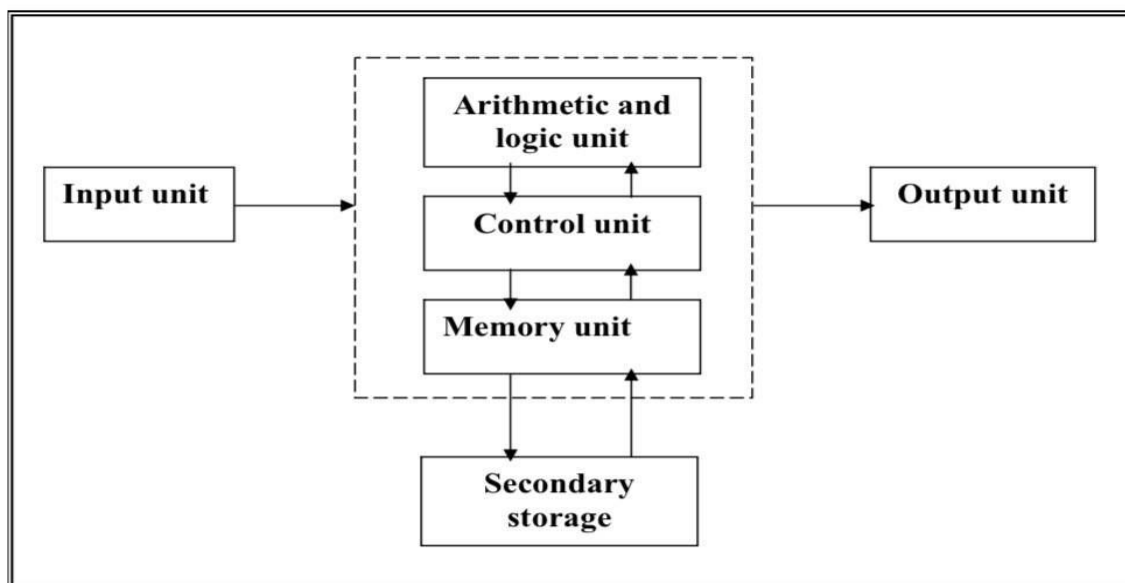
(Fig.4)



Main Components Of Hardware:

The basic components of a computer system are: (see fig. 5)

- 1- Input unit
- 2- Output unit.
- 3- External storage.
- 4- Central processing unit: -which consists
 - a- Control unit.
 - b- Arithmetic and logic unit.
 - c- Register.
- 5- Memory unit (internal memory).



(Fig.5) logical structure of computer



Input Unit

the input unit of a computer system accepts data, convert it into electrical impulses that are sent in to internal memory or to the central processing unit (CPU) where can be processed. Such as Punched cards (old system) , Magnetic tape, Floppy disk, keyboard, mouse ,Trackball, Touch Pad ,Light Pen , Laser Scanner, Pointing Stick ,Touch Screen, Bar Code Reader, , Microphone, Joystick .



(Fig.6) Input Devices



3- Output unit

Output units are tools of interpretation and communication between human and computer, that let you see (or here) the result of the commands you enter, the most common output device are a display screen (monitor), printer or other device that let you see what computer has accomplished.

Output means getting data out of the computer.

Such as Monitor, Printer , Speaker ,Headphones, web cam, Modem ,Fax .



(Fig.7) Output Devices



Storage Devices

Storage devices are both input and output devices in one.

A storage device is a place to keep data that has been processed so that it can be retrieved at a later time to be used again.

- Hard Disk
- Floppy Disk
- CD's, DVD's
- Magnetic Tape
- Flash Memory, Jump Drive