

Hardware cont... & Software

Computer Skills

Physics Department

1st year- 2nd Semester

Lecture 4

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Secondary storage devices

- The devices store data even after the computer is switched off.

There are two types:

1. Internal storage:

Hard Disk: It is the most important storage media located inside the computer, which stores operating system and programs.



2- External storage

External Hard Disk:

- Used to store a huge amount of data for easy transferring between computers.



Flash Memory (USB):

- A compact and easy-to-use device for transferring data between computers.



Optical Discs:

An optical disc is a flat, round, portable metal disc with a plastic coating. CDs, DVDs and Blu-ray Discs are the three types.

Optical storage devices



Compact Disc (CD)
Capacity: 700 MB
Available from 1982



DVD
Capacity: 4.7 GB
Available from 1995



Blu-ray Disc
Capacity: 25 GB
Available from 2006

Floppy

- "Floppy" disk drives allow you to save work on small disks and take the data with you.



Backing up a Hard Drive A computer's hard drive stores information even when the computer is turn off, but you should still back up the documents you create to some type of removable storage, like a CD-RW or Any other external storage. This will give you an extra copy of your files in case your hard drive is damaged.

Computer Performance

The computer performance depends on the following:

1. The speed of the processor, which is measured in Giga Hertz.
2. The capacity of RAM, which is measured in Giga Bytes.
3. The speed and capacity of the Hard Disk.

How Computer Memory Is Measured

- Bit

All computers work on a binary numbering system, i.e. they process data in one's or zero's. This 1 or 0 level of storage is called a bit.

- Byte

A byte consists of eight bits.

- Kilobyte

A kilobyte (KB) consists of 1024 bytes.

- Megabyte

A megabyte (MB) consists of 1024 kilobytes.

- Gigabyte

A gigabyte (GB) consists of 1024 megabytes.

Software, or programs

- Are instructions that tell the computer what to do and how to perform. It is a set of step-by-step instructions to perform a specific task.

It is divided into two types

1- System Software

2- Application Software.

System Software

- System software is the “background software” that comprises of programs that the computer uses to manage its task and devices. It serves as the interface between the user, the application software and the computer’s hardware.
- This software works with the operating system. It controls how you, the software, and the hardware work together.

Example of System Software:

- 1) Microsoft Windows
- 2) Linux
- 3) Unix
- 4) Mac OSX
- 5) DOS

Functions of a System Software

- Managing resources (memory, processing, storage, and devices like printer).
- Providing user interface
- Running applications



Examples:

Operating Systems: Computers and laptops usually use Windows or Apple Macintosh. Cell phones and tablets usually use Apple iOS, Android.

Application Software

They are programs used to perform some specific tasks specified by the user.

Examples:

1. **Word Processing:** enter, edit, format and print documents.
2. **Spreadsheet:** enter, edit, format, print, sort and calculate primarily numeric data.
3. **Communications:** email and the internet
4. **Education and Entertainment:** Tutorials, Testing, Simulation, and Games (multimedia)

Why are computer skills important?

- Most jobs now require the use of computers, mobile devices or software applications in some capacity. Some employers will require prior knowledge or experience with specific applications. If you have a working knowledge of commonly used software, you may be able to more easily learn how to use new programs.
- Job applicants with computer skills are highly sought-after due to the increase of technology in the workplace. You can showcase your computer skills by identifying computer-related requirements on job postings and explaining on your resume how you meet or exceed those requirements with past experience.