Al-Mustaqbal University

College of Engineering and Technology

Department of Medical Instrumentation Techniques Engineering

Class: Third Class

Subject: Secondary Memory

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Lecture Address: MICROPROCESSORS

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Auxiliary (backing) memories (magnetic tape , magnetic disk ,) .

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Secondary Memory:

This type of memory is also known as external memory or . It is slower than main memory. These are used for storing data/Information permanently. CPU directly does not access these memories instead they are accessed via input-output routines. Contents of secondary memories are first transferred to main memory, and then CPU can access it. For example : Hard disk, CD-ROM, DVD etc. Electronic data is a sequence of bits. This data can either reside in :

• Primary storage - main memory (RAM), relatively small, fast access, expensive (cost per MB), volatile (go away when power goes off)

• Secondary storage - disks, tape, large amounts of data, slower access, cheap (cost per MB), persistent (remain even when power is off)

Data storage has expanded from text and numeric files to include digital music files, photographic files, video files, and much more. These new types of files require secondary storage devices with much greater capacity than floppy disks

Primary storage (or main memory or internal memory) , often referred to simply as memory , is the only directly accessible to the CPU.

Primary storage (Main Memory) has three main functions:

1-It stored all or part of the program that being executed.

2-It also holds data that are being used by the program.

3-It also stored the operating system programs that manage the operation of the computer.

Why Secondary storage?

- Used in computer system to overcome the limitations of primary storage.
- Has unlimited capacity because the cost per bit of storage is very low.
- Used to store large volumes of data on a permanent basis.
- Physical components which data is stored are called storage media.

Q/Definition -What does Storage mean?

Storage is a process through which digital data is saved within a data storage device by means of computing technology.

Storage is a mechanism that enables a computer to retain data, either temporarily or permanently.

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Auxiliary Storage

: Q/Definition - What does Auxiliary Storage mean?

Auxiliary storage is any storage that is made available to the system through input/output channels.

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This term refers to any addressable storage that is not within the system memory (RAM). These storage devices hold data and programs for future use storage that retains information even when power is not available.

- Main categories of storage technology used today are:-

1. Magnetic storage Devices.

2. Optical Storage Devices.

3. Memory Storage Devices

1) Magnetic Storage Devices :

a. Magnetic tape

- Cassette
- Magnetic Tape

b. Magnetic disk

- Floppy Disk
- Hard Disk

- Advantages of magnetic tape are:

a. Storage capacity is unlimited.

b. Cost per bit of storage is very low.

c. Tape can be reuse many times.

d. Easy to handle and store.

e. Very large amount of data can be stored in small storage space .

Uses of magnetic tape:

1.Backing up of data .

2.Archiving of used data

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