Lecture. 5
Hard disk

Secondary Storage

Storage Devices

- It is not directly accessible by the CPU.

- Computer usually uses its input/output channels to access secondary storage and transfers the desired data using intermediate area in primary storage.

- Example: – Hard disk

Storage Devices

- Hard Disk

• The hard disk drive is the main, and usually largest, data storage device in a computer.

• It can store anywhere from 160 gigabytes to 2 terabytes.

• Hard disk speed is the speed at which content can be read and written on a hard disk.

• A hard disk unit comes with a set rotation speed varying from 4500 to 7200 rpm.

• Disk access time is measured in milliseconds

Storage Devices

Secondary Storage

Hard Disk

Internal Hard disk

External Hard disk

Storage Devices

Hard Disk

	Internal Hard disk	**External Hard disk**
Portability	No	Yes
Price	Less expensive	More expensive
Speed	Fast	Slow
Size	Big	Small

Comparison between Main memory (RAM) and Secondary Memory (Hard disk)

RAM	Hard Disk (Hard Drive)
Memory	Storage
Smaller amount (typically 500 MB-6 GB)	Much larger amount (typically 80GB to 1000 GB)
Temporary storage of files and programs	Permanent storage of files and programs
A little like your real desktop - has only your current work on it (which could be ruined by a spill of Coke or coffee!)	Like a file cabinet - has long-term storage of work (it's safe from spills!)
Contents disappear when you turn off power to the computer and when the computer crashes	Contents remain when you turn off the power to the computer (they don't disappear unless you purposely delete them), and when the computer crashes
Consists of chips (microprocessors)	Consists of hard disks (platters)
When you want to use a program, a temporary copy is put into RAM and that's the copy you use	Holds the original copy of the program permanently