1.28 Secondary Storage

Keywords & Definitions

Secondary Storage - Permanent data storage to store files and programs.

Magnetic Storage - Hard disk drives and magnetic tapes that hold data as magnetised patterns

Solid State Storage - Storage devices with no moving parts making them fast and reliable.

Optical Storage - includes CD, DVD and Blu-Ray disks. Lasers are used to read and write data to a disk.

Secondary Storage

What is secondary storage? Long term storage of data, files and software

Why do we need it?

To access files and programs again later To use software To interact with the computer

What would happen without secondary storage?

Software would need to be installed each time we use it

• You couldn't save any files, data, images, videos etc.

Types of Secondary Storage

Data Capacity



| Type | Explanation | Examples | | |
|-------------|--|--|--|--|
| Magnetic | Have a tape or disk surface which can be magnetised | Floppy disks, hard drives, magnetic tapes | | |
| Optical | Data is read by shining a la- ser beam on the surface | CD, DVD, Blu-ray | | |
| Solid state | Made of microchips (switches) | Solid state drive, USB drive. SD card | | |



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Calculating file sizes:

| Text Files. | Sound Files. | | | | |
|--|-------------------------------------|--|--|--|--|
| 1 byte per character + 10% | bytesPerSample * samplesPerSecond * | | | | |
| | channels *duration | | | | |
| (number of pixels * number of bytes per pixel) +10% | | | | | |

Characteristics of Secondary Storage:

| Type of device | Capacity | Speed | Portability | Durability | Reliability | Cost | *1 is the |
|----------------|----------|-------|-------------|------------|-------------|------|------------|
| Optical | 3 | 3 | 2 | 2 | 3 | 2 | best, 3 is |
| Magnetic | 1 | 2 | 3 | 3 | 2 | 1 | tne worst |
| Solid State | 2 | 1 | 1 | 1 | 1 | 3 | |

- Capacity—how much data can be stored?



World of work links Programmer, IT Technician, Software Engineer, Teacher, Systems Architecture, Data Engineer, Software Developer

