

# ***Secondary Storage***

## CHAPTER 4



# ***Learning Objectives***

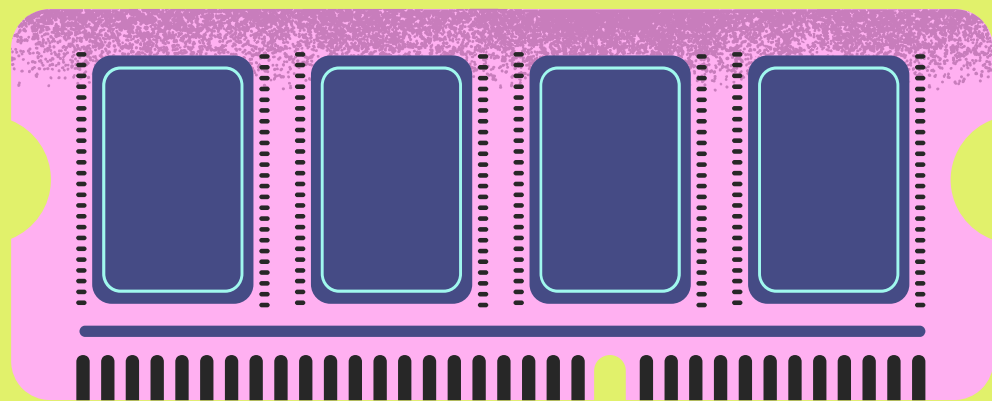
Understand why  
secondary storage is  
required

Identify different types  
of secondary storage

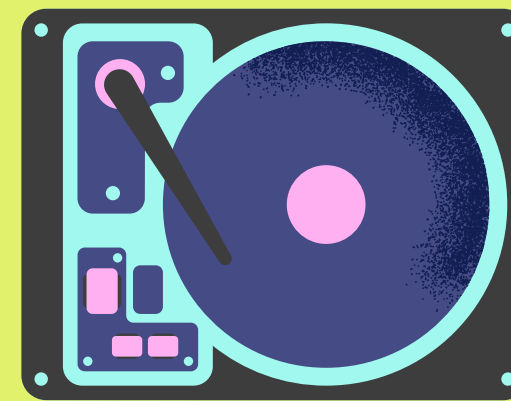
Explain cloud storage  
and its advantages

# ***Main Memory vs Secondary Storage***

---



Main memory is any form of memory that is directly accessible by the CPU. RAM and ROM are both main memory.



Secondary storage is any non-volatile storage mechanism that is not directly accessible by the CPU.

# ***Secondary Storage***

Secondary storage is necessary for longer term storage of files and data.

It is non-volatile, meaning data is retained when power is lost.

It is generally much higher capacity than main memory and can therefore store large quantities of files.

## **Types of secondary storage:**

Magnetic (HDD)

Solid State (SSD)

Optical Drives (CD, DVD)

Cloud Storage



# ***Hard Disk Drive (HDD)***

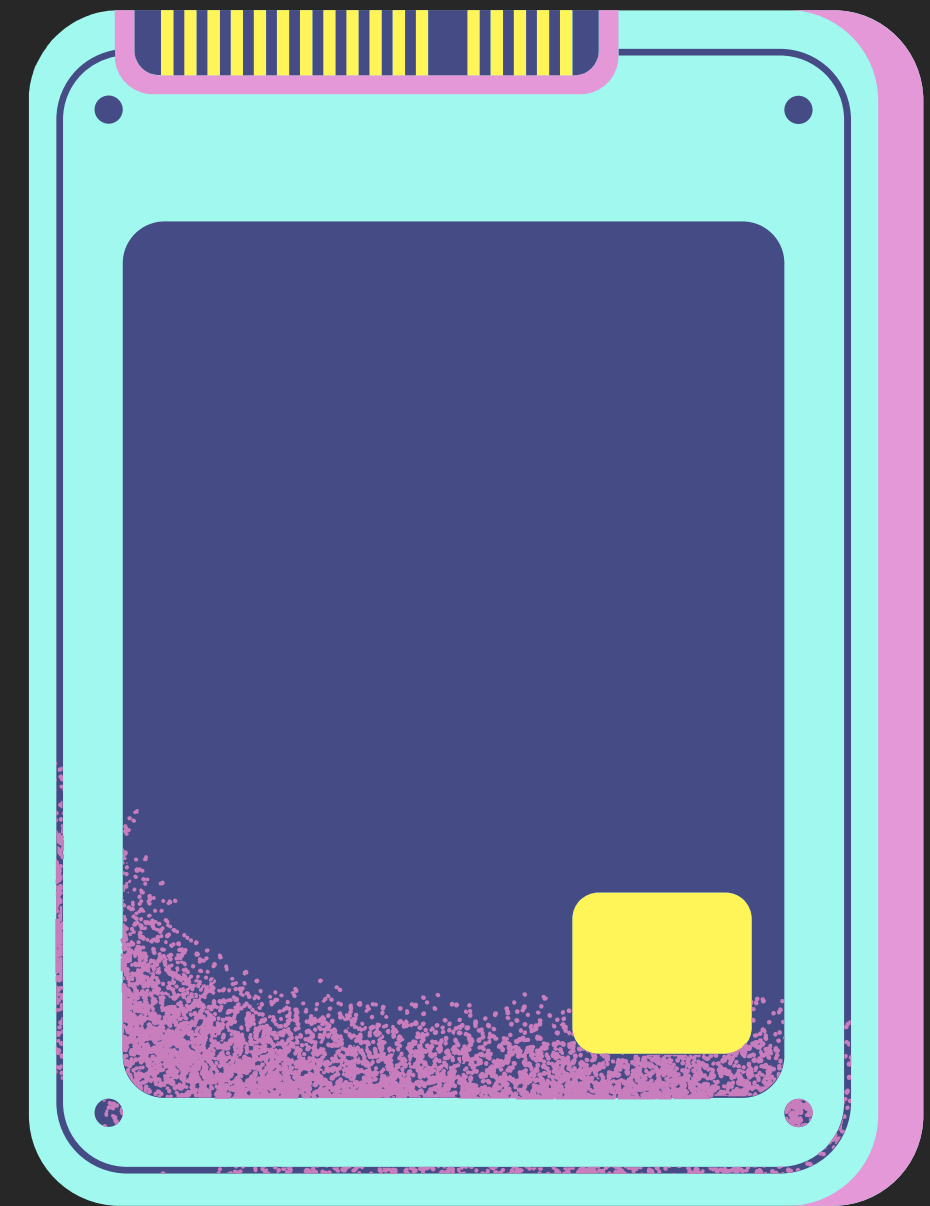
Data is stored on a spinning disk, called a platter.

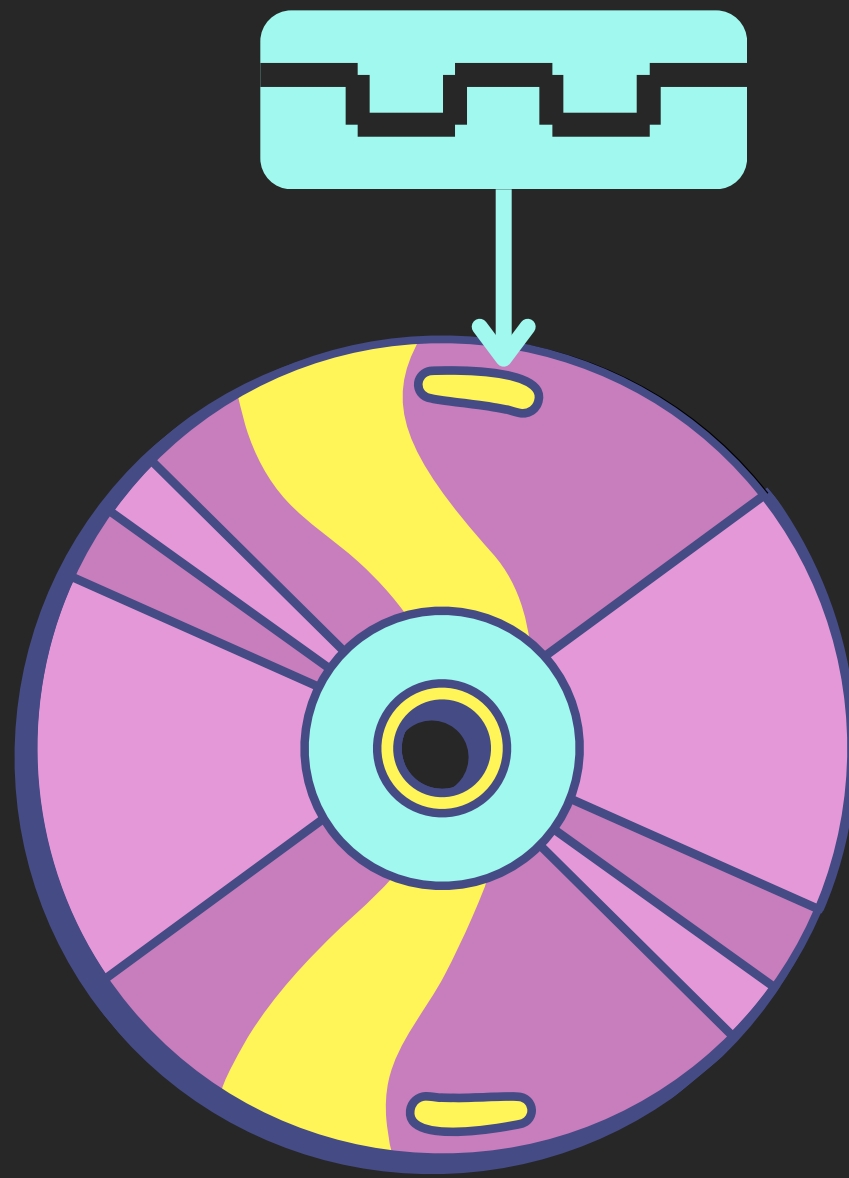
The read/write head moves across the surface of the platter, magnetising regions of the platter to represent binary 0s and 1s.

# ***Solid State Disk (SSD)***

Data is stored within a series of electrical circuits.

Transistors control the flow of current in the circuits. Binary 1 is represented by current being able to flow and 0 is represented by the current being blocked.





# *Optical Drive*

There are different types of optical drive with varying speeds and capacities (e.g. CD, DVD).

A laser reflects light from the surface of a disk, which is marked with pits (dips) and lands (raises). This pattern represents binary 1s and 0s.

# *Cloud Storage*

Files are stored on a Hard Disk Drive (HDD) or Solid State Disk (SSD) in a remote computer accessible over the internet. This is called a server.

Cloud storage reduces the need for local storage and means files are accessible across devices but is limited by the need for internet access.



Drag and drop the secondary storage devices into the correct order.

HDD

SSD

Optical

Cloud

***Speed***

Lowest

Highest

***Price***

Lowest

Highest

***Capacity***

Lowest

Highest

Drag and drop the secondary storage devices into the correct order.

## ***Speed***



## ***Price***



## ***Capacity***



Drag and drop the secondary storage devices into the correct order.

