* HDD physical structure

3 main parts → Cylinder, track, sector

* Now RAM has data in form of Digital Signal (0, 1) ⟶ HDD must store this in some format.

* HDD stores in magnetized direction (North, South) ⟶ mapped to (0, 1)

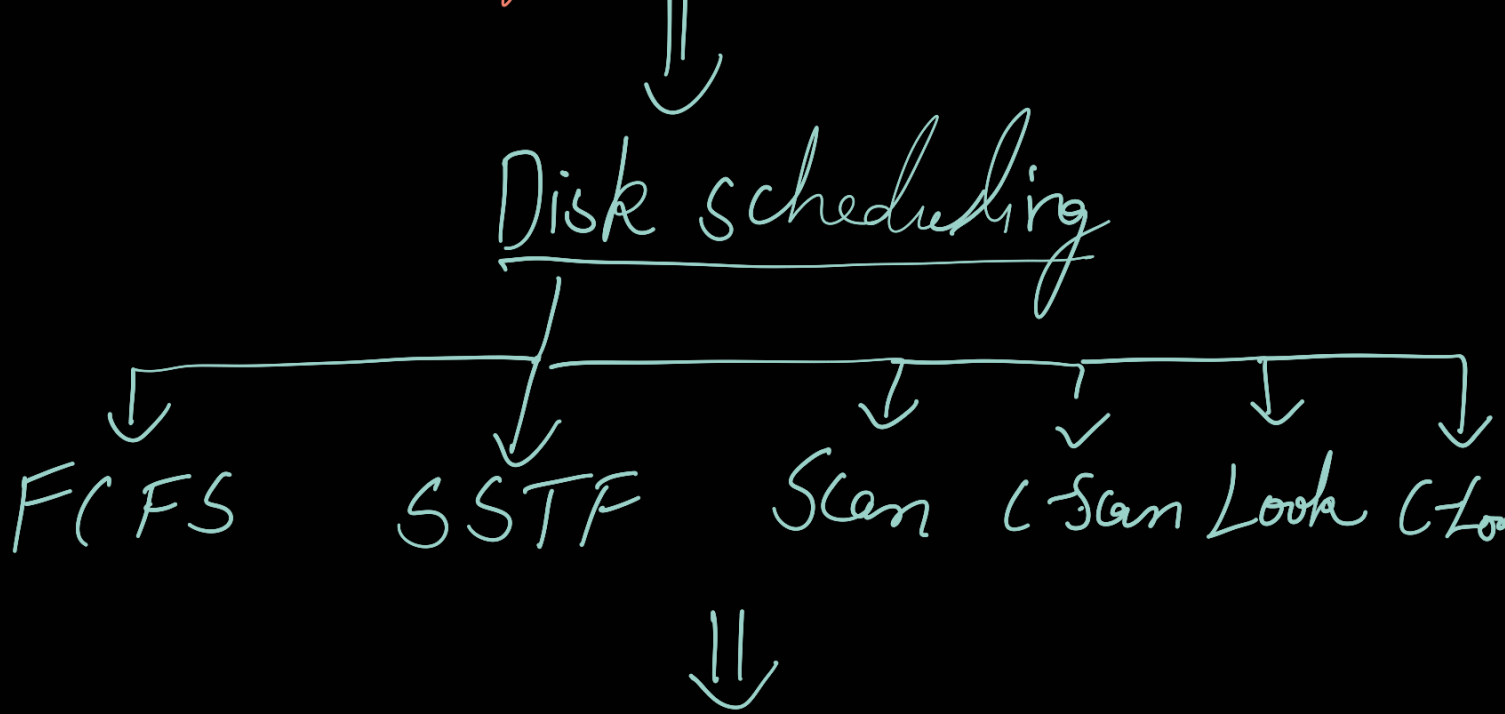
* SDD stores in form (0, 1) only

* OS provides interface to application programmer to hide this complexity

* O.S also has responsibility to use the HDD hardware efficiently. As HDD are slow, OS has to optimise the **Seek time**, which is time to move arm to desired

cylinder / track.

* Each application program is in control of O.S and is requesting for HDD data.
* All these requests are aggregated together and scheduled.
* Just like O.S schedules processes, it schedules I/O requests to HDD from multiple processes.



Disk formatting

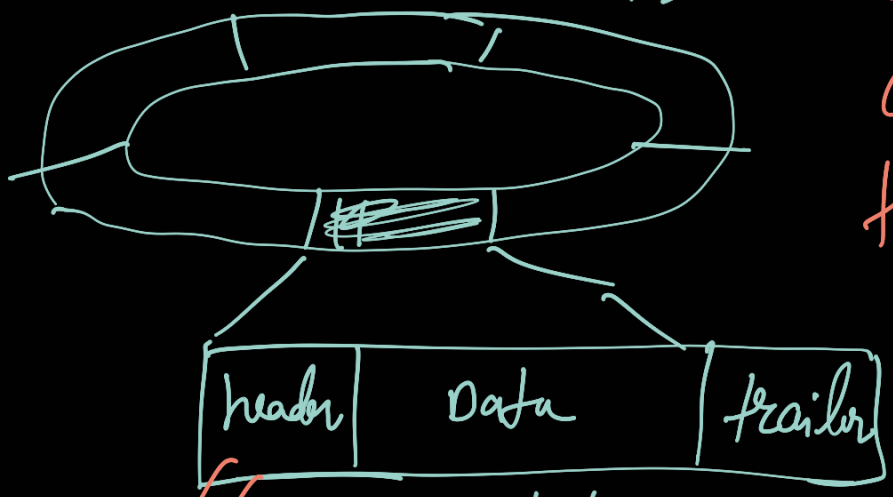
* New HDD is just blank slate

↓

Low-level formatting → Done at Manufacturing time

[Dividing Disk into sectors]

↓



Magnetic material is coated in track like structure by Manufacturer.

Container sector data like sector Number and Error control code

Before OS can use HDD, it loads its own data structure

Step 1 ⇒ Partitioning
- ⇒ Windows: C:, D: etc
- ⇒ Linux: Directories

Step 2 ⇒ Logical formatting
- ⇒ Creation of file system