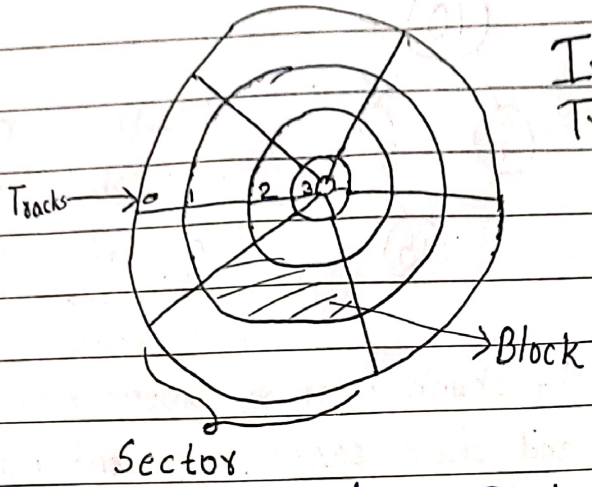
Disk Structure

Disk is like a platter on which there are logical concentric circle not physical. These circle are called track



Intersection portion of Track & Sector is block.

Block address = (Track NO, Sector NO)

Reading & Writing from Disk is done on block. So using track & sector we reach block. And inside block we use offset to reach desired address.

Particular Byte on block = (Track No, Sector No, offset)

Programs runs on main memory.

Organizing the data inside the main memory that is directly used by program is data structure.

Organizing the data inside the disk efficiently that can be easily utilized is DBMS.

Ways to Access Disk

(a) Directly

Search the blocks linearly.

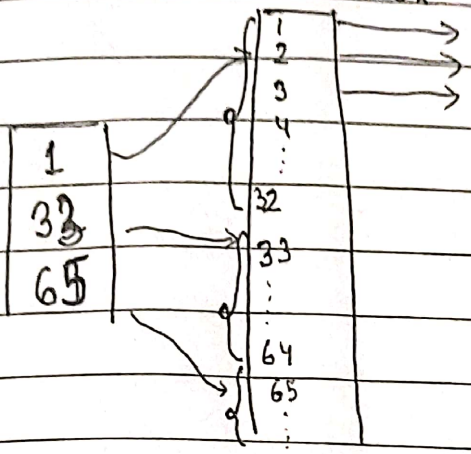
(b) Index

The index is also on disk. Index is the key which has the value pointing to block address offset of record.

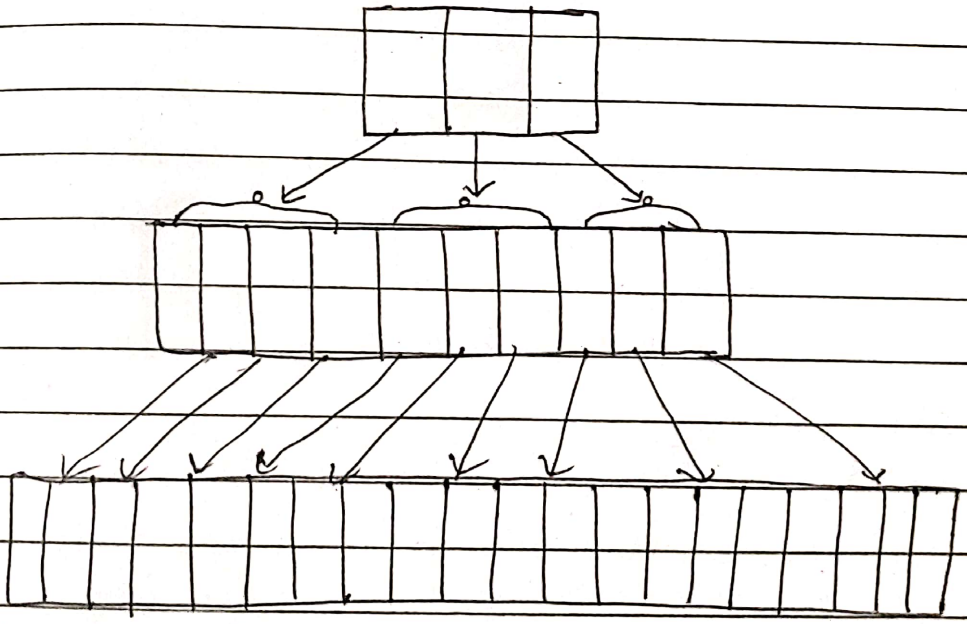
(c) Multi-Level Index

The number of blocks to store index increases, so using single level index we need to traverse more blocks.

Better multi-level index



Adding no of multilevel index will reduce no of block access.



Multi-Level Indexing Look

Similar to m-way search tree.