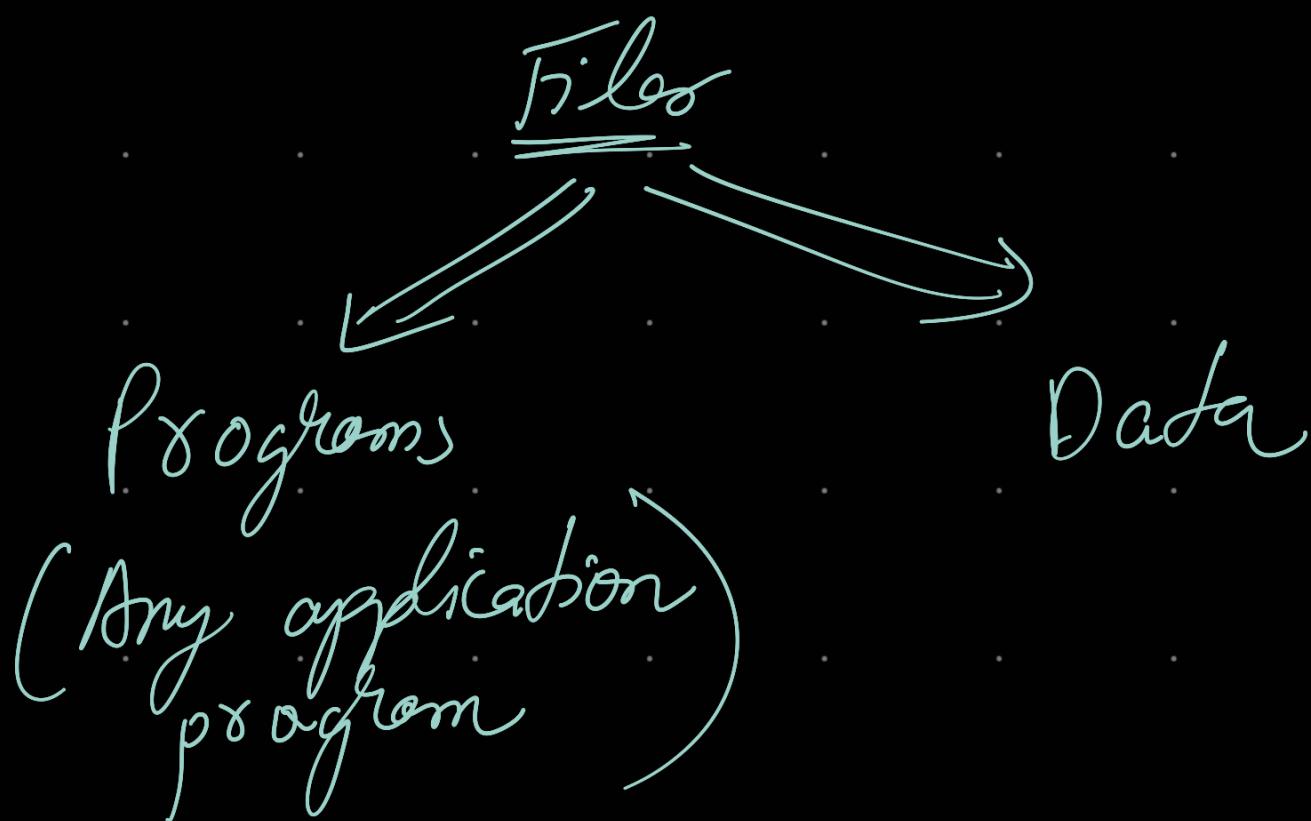


File System Interface

- * File \Rightarrow Logical storage unit defined by O.S
 \Rightarrow Physically, it is stream of bytes



Types of data in file:

- * RAW data \rightarrow executable, source file, bit file, bit data
- * RICH data \rightarrow Photo | pdf, gif etc.
 \rightarrow Music
 \rightarrow Video

* File system is also a Data structure stored inside HDD, it is used by O.S to optimise read/write to physical sectors of HDD.

* File attributes

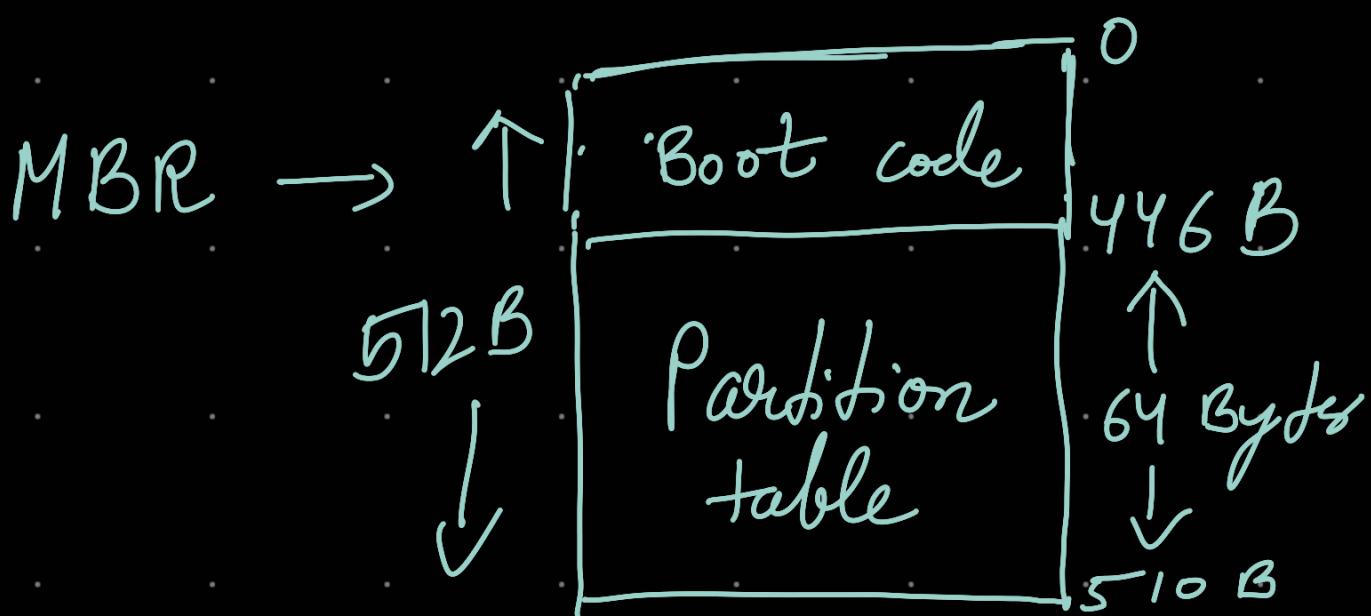
- ↳ Name
- ↳ Identifier
- ↳ Type → exe, .txt etc.
- ↳ Location
- ↳ Size
- ↳ Date, time
- ↳ Access control information

* 1st sector of HDD contains boot block → contains meta information about partitions and where to load O.S

MBR → For Windows

GRUB → For Linux

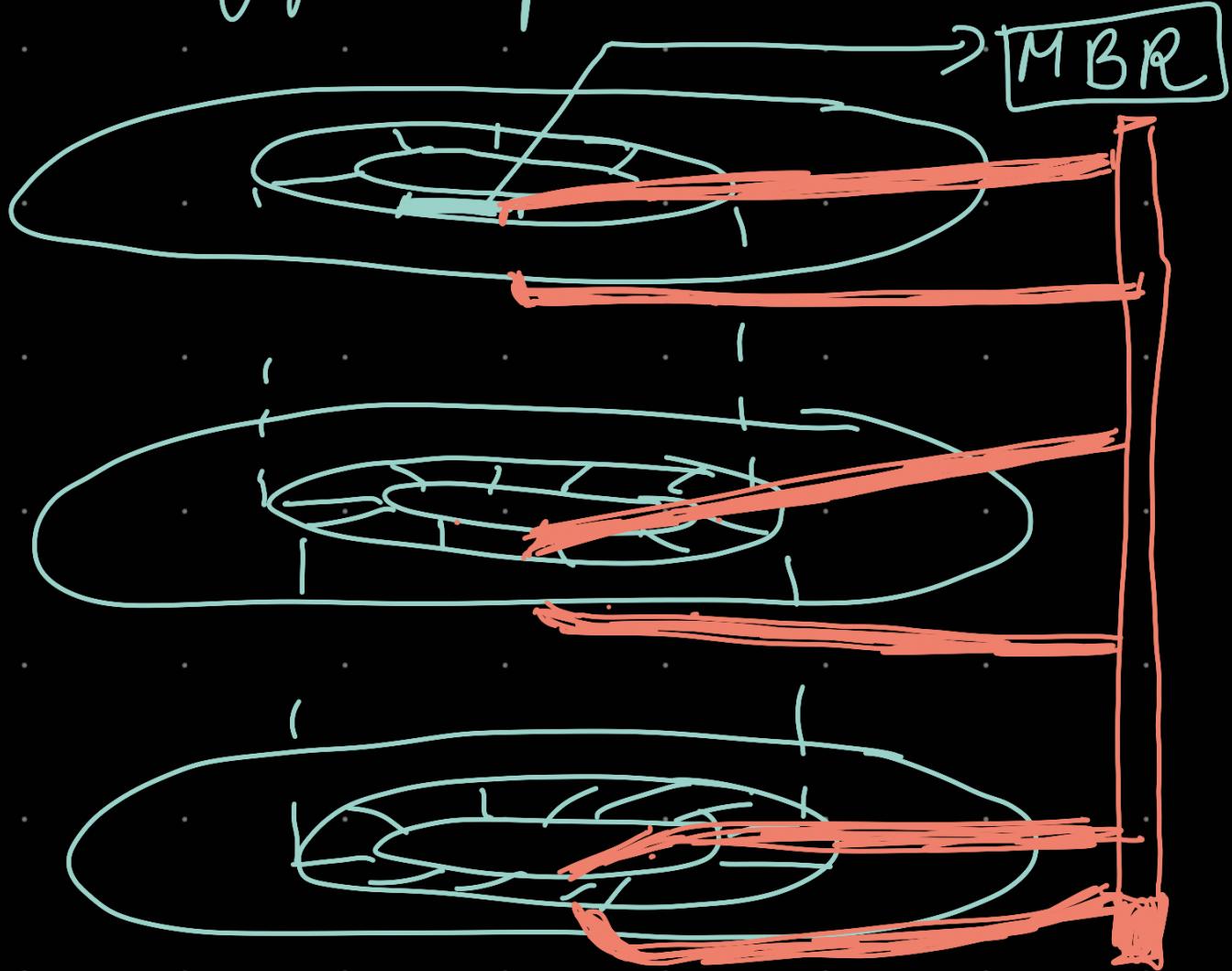
* **BIOS** checks 1st sector and loads the O.S for MBR or GRUB



MBR Signature ← | 1111111111111111 | 512B

Partition table

- ↳ Starting CHS (cylinder head -sector) address
- ↳ Ending CHS address
- ↳ Type of partition (FAT NTFS etc)



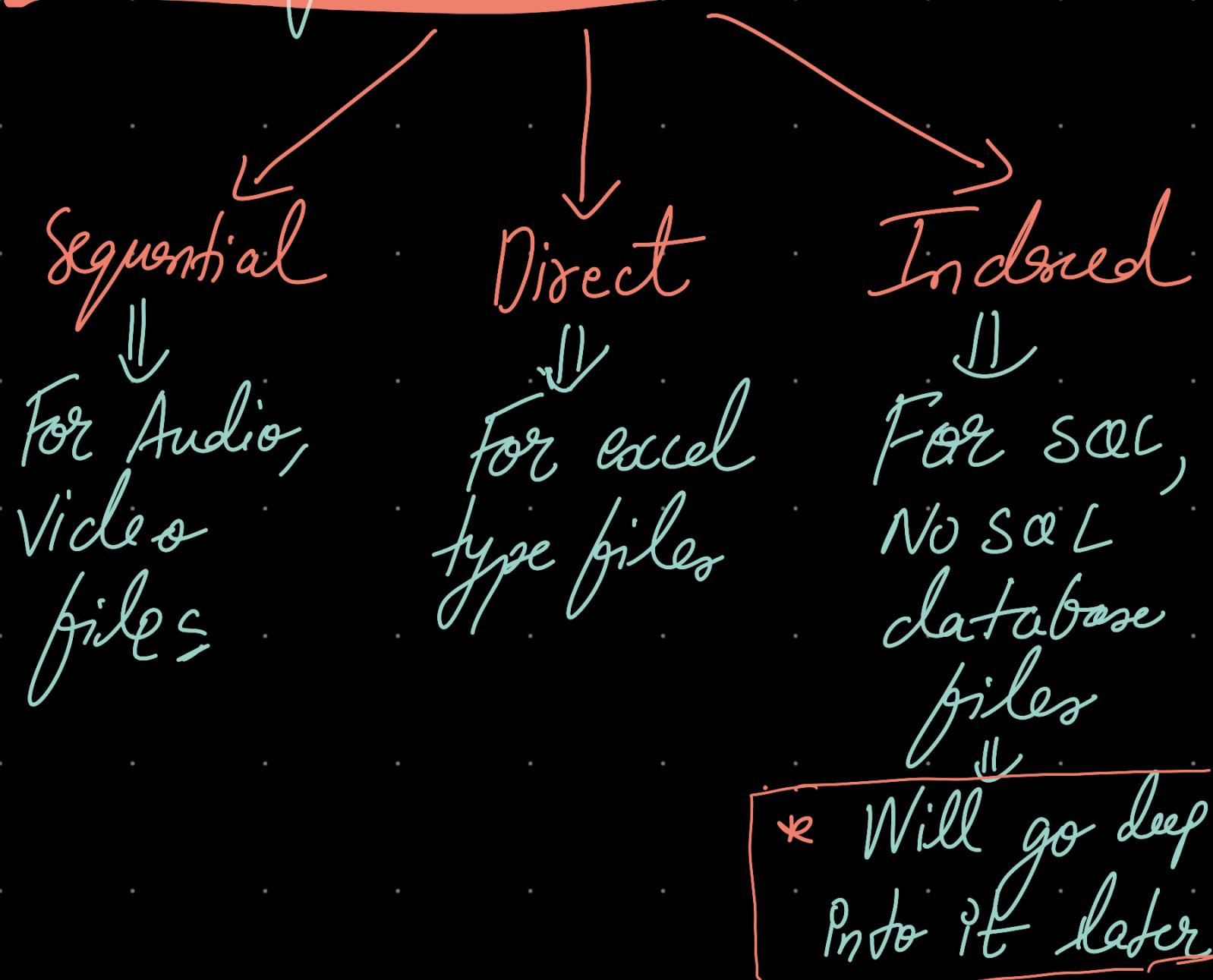


* OS code is loaded with help of Boot record.

* As, we know each partition will have its type → which is the file system type

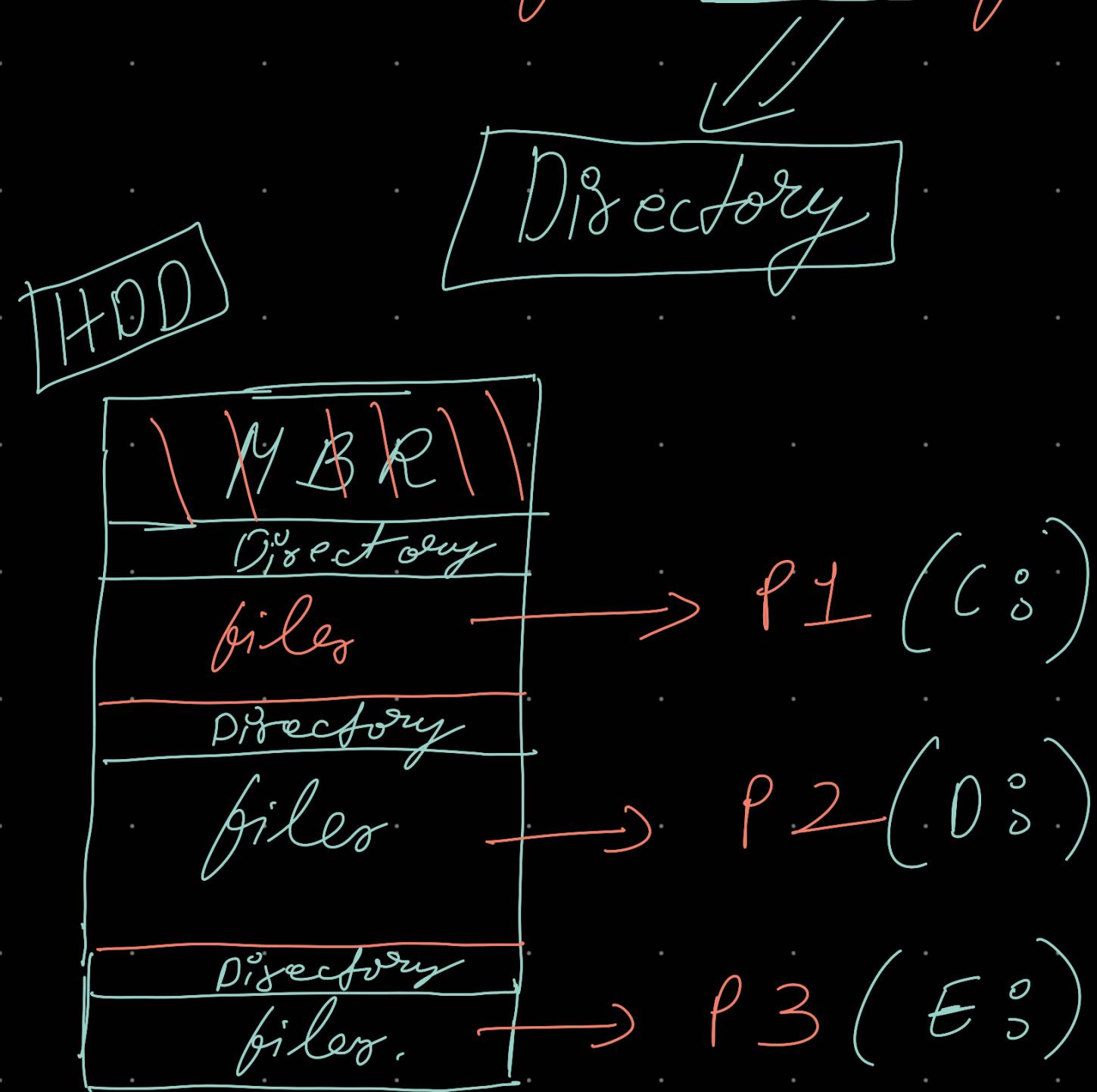
E.g. → FAT32, NTFS, ext⁴
etc

Accessing a file



* HDD → divided into partitions
Each partition have 1000s of files

To make file access faster,
Some space inside each partition
can be used for Meta Information



- * Each partition will have
 - at least one directory
- * Data Inside directory space
 - Total files, name of each file
 - Location of files
 - Size of each file
 - type of each file
 - other meta data
- * Using information present in directory space user can;
 - * Search, rename, create/delete files

* Directory can contain another directory and so - on.

Logical Structures of Directory

