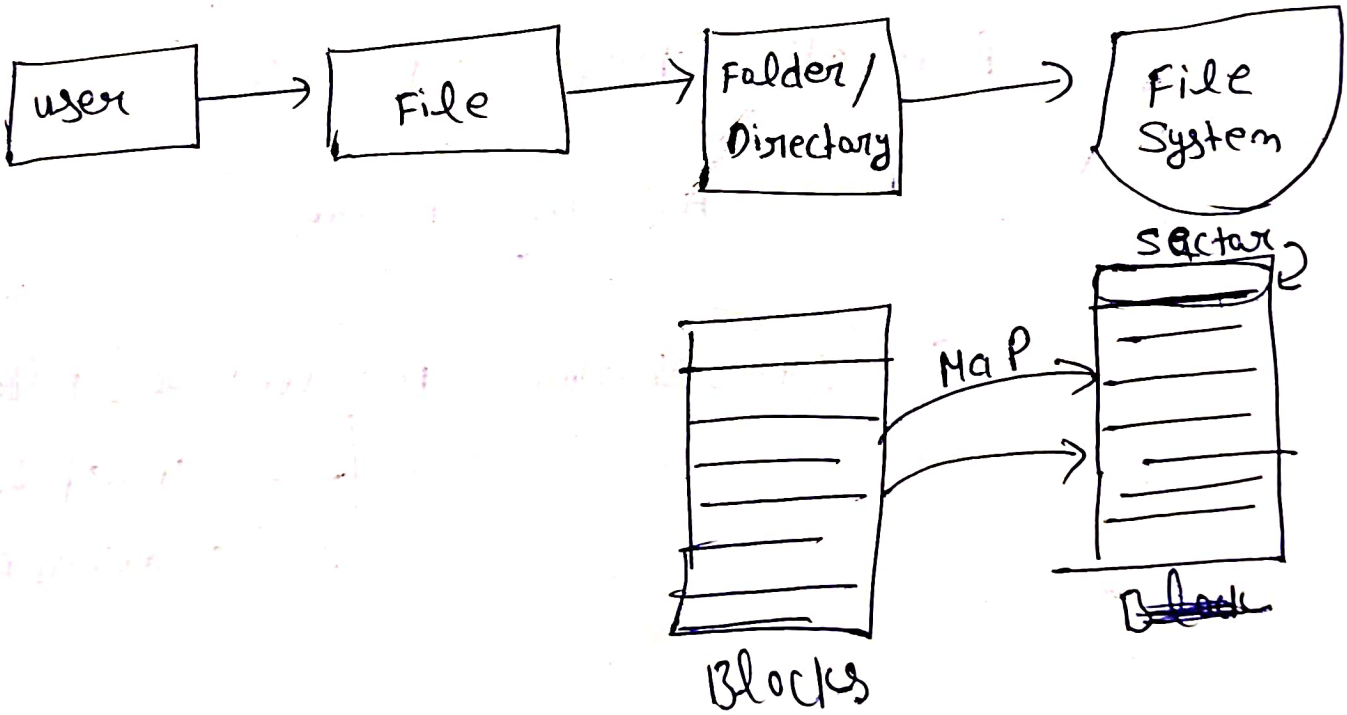
File system in operating system

↓ SIW

→ How Stored

→ How Fetched.



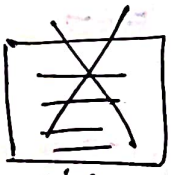
Operations on Files

1) Creating (Touch) / CAT
2) Reading
3) Writing
4) Deleting
5) Truncate
6) Repositioning

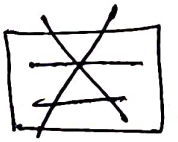
File Attributes

1) Name
2) Extension (Type)
3) Identifier
4) Location
5) Size
6) Modified date, created date.
7) Protection / Permission
8) Encryption, Compression.

Deleting =

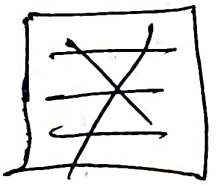


File



Attributes

Truncate

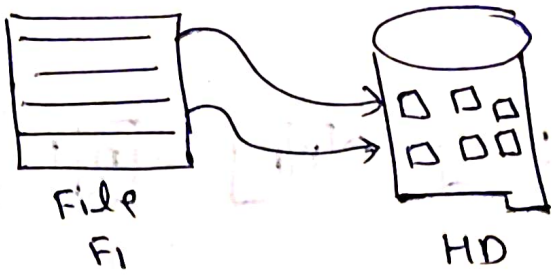


Attributes.

Allocation Methods in OS

Allocation Methods

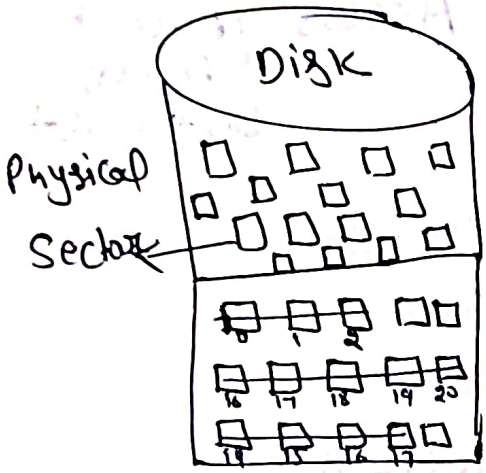
- Contiguous Allocation
- Non Contiguous Allocation
  - Linked List
  - Indexed Allocation



Achieving

1) Efficient disk utilization.
2) Access Faster.

* Contiguous Allocation



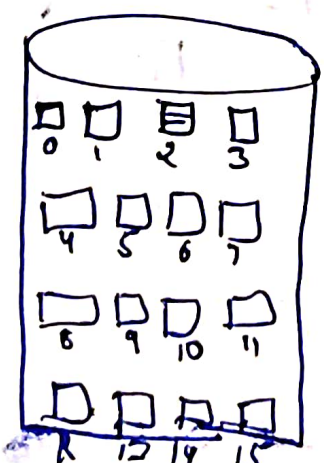
Directory

File	start	Length
A	0	3
B	16	5
C	14	4

Advantages: - 1) Easy to implement
2) Excellent read performance

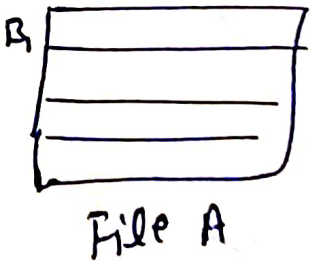
DisAdvantages: -
1) Disk will become Fragmented.
2) Difficult to grow File.

* Non Contiguous Allocation → 1) Linked List Allocation.

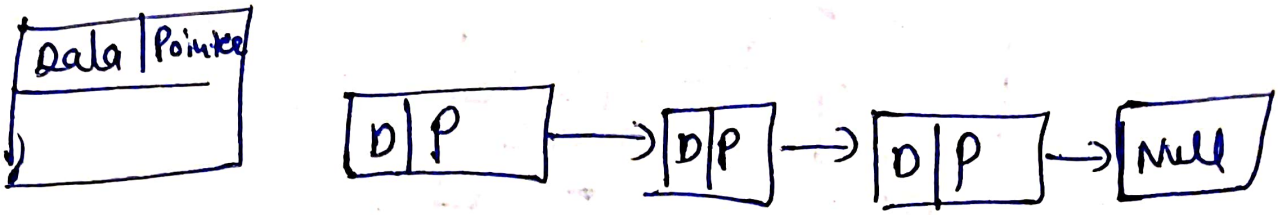


Directory

File	start
A	2



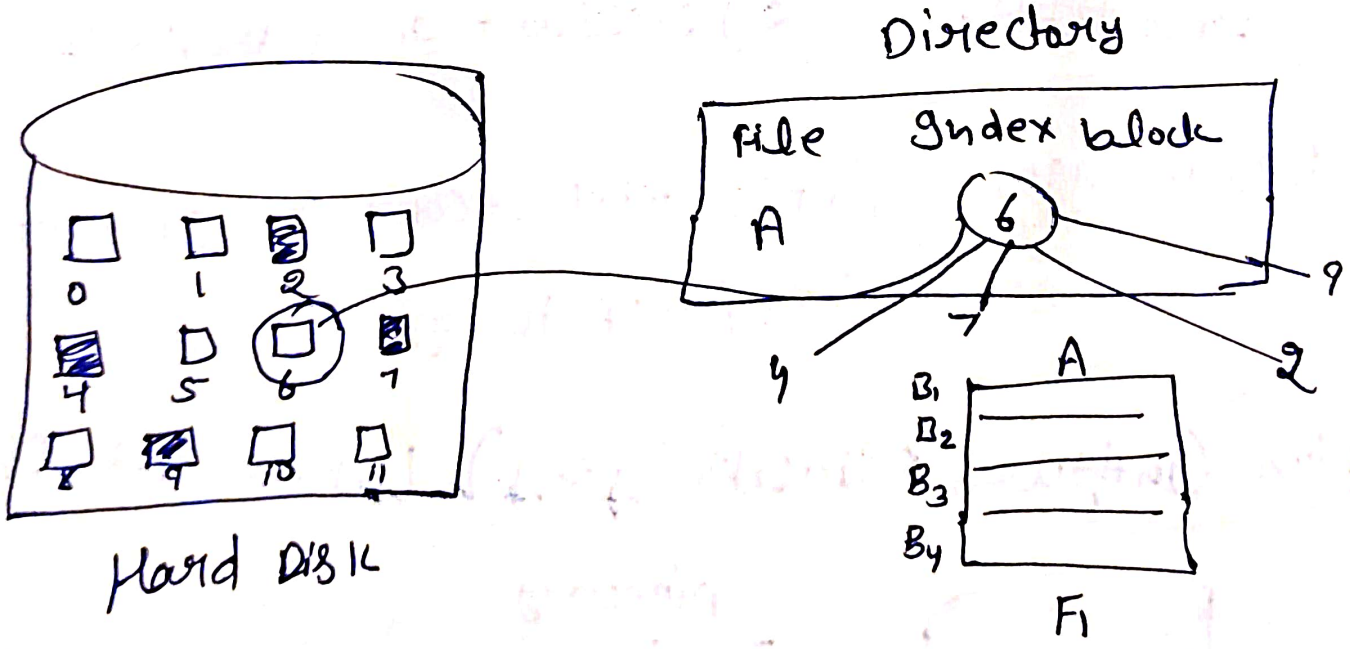
File A



Advantages:- 1) No external Fragmentation
2) File Size Can increase

Disadvantages:- 1) Large Seek Time.
2) Random ~~Access~~ Access / Direct Access Difficult
3) overhead of Pointer Means.

2) Indexed File Allocation :-



Advantages

1) Support direct access.
2) No External Fragmentation.

DisAdvantages

1) Pointer overhead.
2) Multilevel Index.