Page No.
Date

Module 5 File Management

* A file is a collection of related information defined by its creator.
  In general, file is a collection of related records.

* **Attributes of File**

1) Name
2) Identifier
3) Type
4) Location
5) Size
6) Protection ← access rights on file
7)

Imp

* **File Operations**

1) create a file
2) Writing a file [write(1, hello, 5);]
3) Reading a file [read(0, buff, 10);]
4) Deleting a file
5) Truncating a file

Other operations
Open, close, Rename etc.

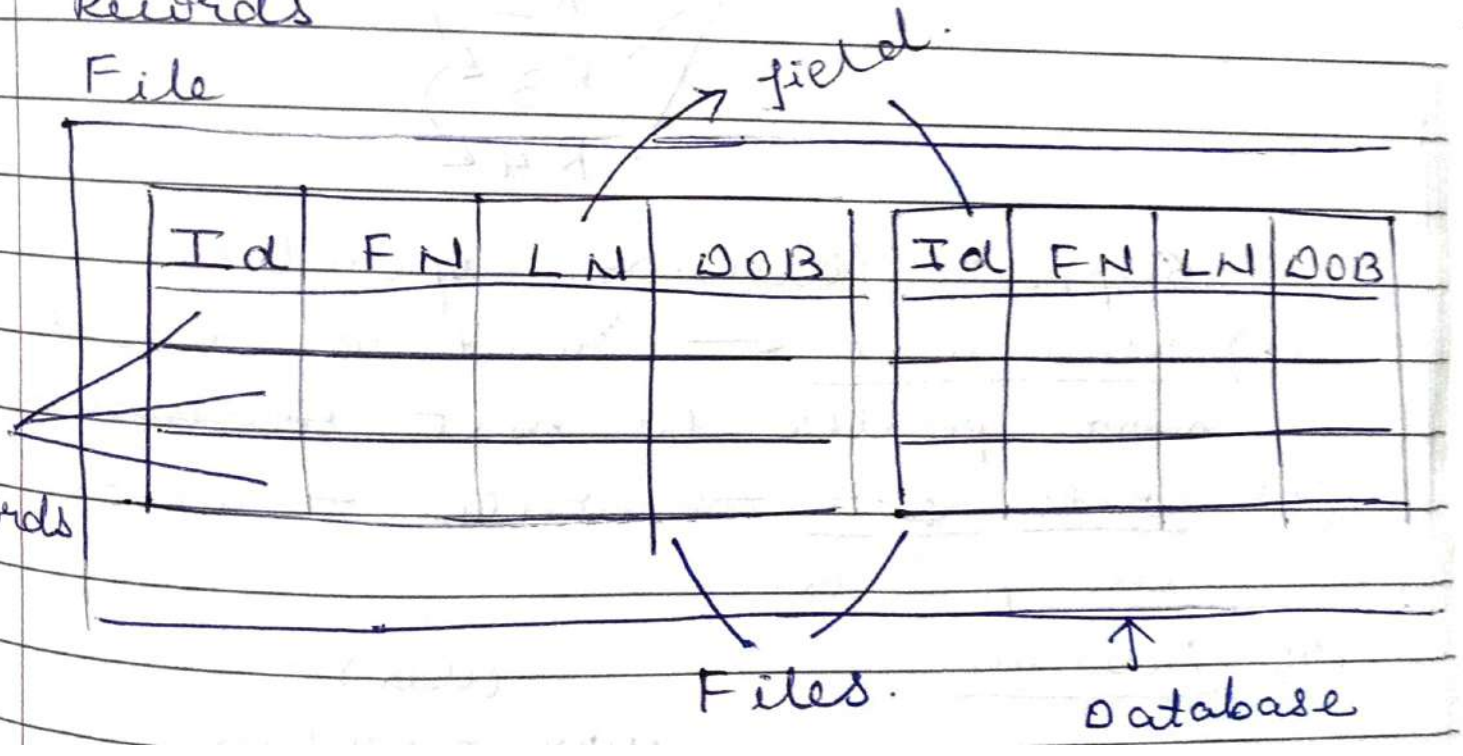
Page No.
Date

* File Organisation

It refers to the way data is stored in a file.
It is a logical structuring of the records as determined by the way in which they are accessed.

Some common terms.

Field, Database
Records
File



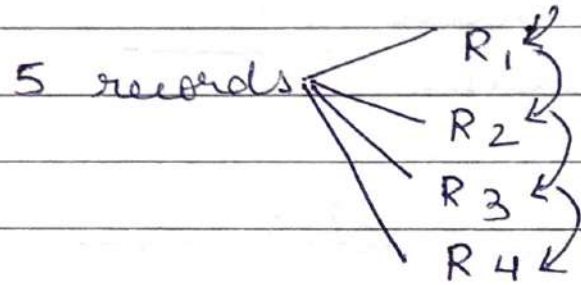
Page No.
Date

* File Access Methods.

1) Sequential Access
2) Direct Access
3) Indexed Access.

1) Sequential Access

One record is processed/ accessed after other.

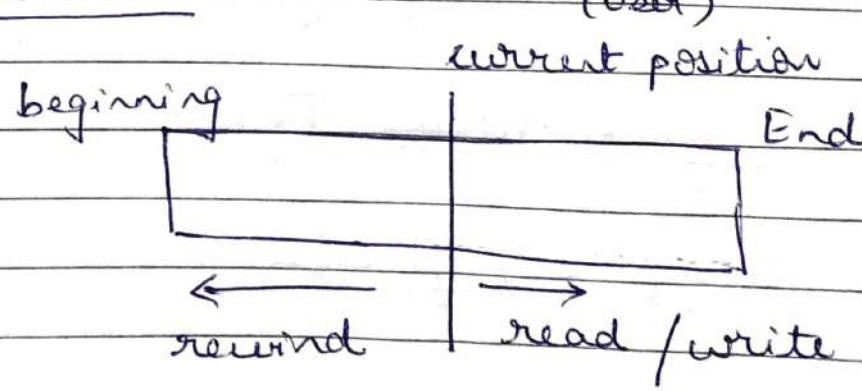


Supports following operations

(i) read next ← read a record & move pointer to next ~~location~~ position

(ii) write next → write & advance the position.

(iii) rewind



moving back to earlier location.

(iv) Skip n records.

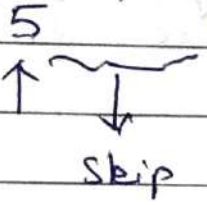
2) Direct Access

It allows random access. User can jump to any record & access that record.

Operations :-

1) Read n → Reading Record 'n'.
2) Write n → Writing Record 'n'
3) jump to record n

jump from one record to another.

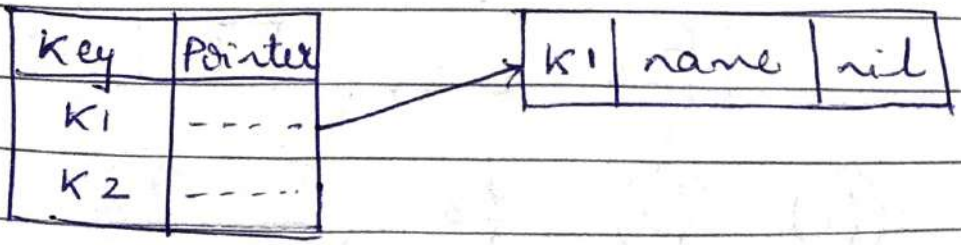


4) Query current record

Used to return back to this record later.

3) Indexed Access

In this index is created which contains a key field & pointers to the various blocks.

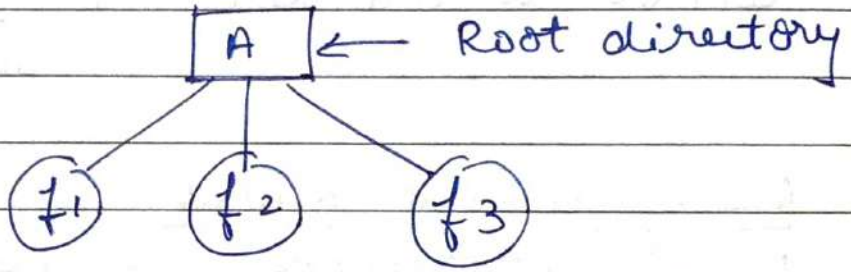


Page No.
Date

* ~~File Organization Types~~
File Directory
* A directory is a container that is used to contain folders & files.

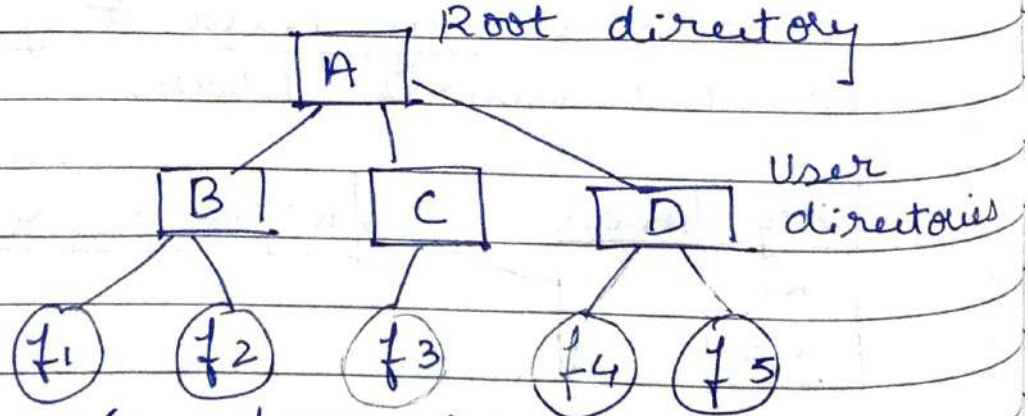
Logical structures of directory :-

1) Single level directory
Single directory for all users



Adv :- Simple to implement
Disadv :- Naming problem

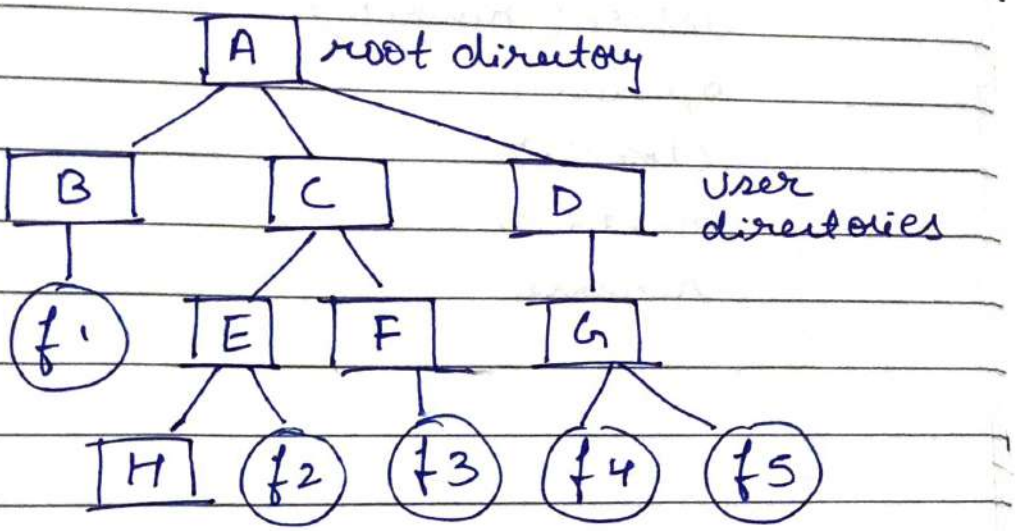
2) Two level directory
Seperate directory for each user



Adv :- - Can have same file name for different user
- Efficient Searching.

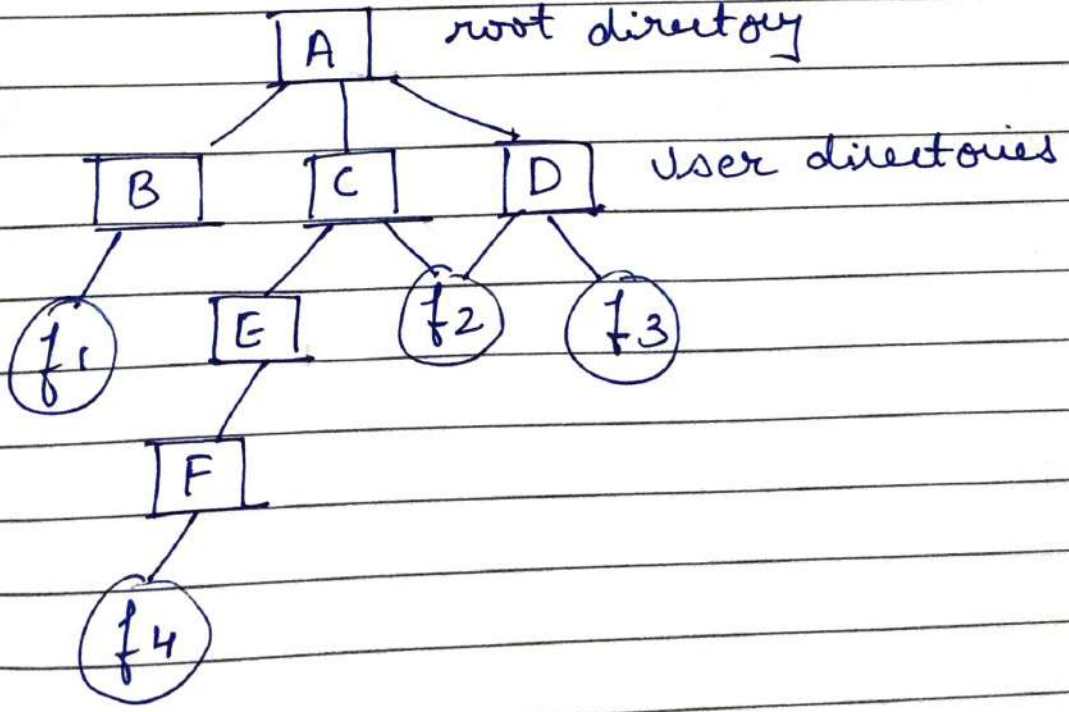
Disadv :- grouping problem.

3) Tree Structured / hierarchical directories



Adv:- Efficient searching
Grouping capability.

4) Acyclic Graph directory



Page No.
Date

Directory operations

create(mkdir)
delete(rmdir)
opendir
closedir
readdir
rename