

Experiment No

Title:

Implementation of direct access file-insertion and deletion of record from a direct access file

Objectives:

1. To understand concept of direct access file
2. To understand concept of insertion and deletion of record from direct access file

Learning Objectives:

To understand concept of direct access file

To understand concept of insertion and deletion of record from direct access file

Learning Outcome:

Analyze working of functions.

Theory:

Types of File Organization

There are three types of organizing the file:

1. Sequential access file organization
2. Direct access file organization
3. Indexed sequential access file organization

1. Sequential access file organization

- Storing and sorting in contiguous block within files on tape or disk is called as **sequential access file organization**.
- In sequential access file organization, all records are stored in a sequential order. The records are arranged in the ascending or descending order of a key field.
- Sequential file search starts from the beginning of the file and the records can be added at the end of the file.
- In sequential file, it is not possible to add a record in the middle of the file without rewriting the file.

Advantages of sequential file

- It is simple to program and easy to design.
- Sequential file is best use if storage space.

Disadvantages of sequential file

- Sequential file is time consuming process.
- It has high data redundancy.
- Random searching is not possible.

2. Direct access file organization

- Direct access file is also known as random access or relative file organization.
- In direct access file, all records are stored in direct access storage device (DASD), such as hard disk. The records are randomly placed throughout the file.
- The records does not need to be in sequence because they are updated directly and rewritten back in the same location.
- This file organization is useful for immediate access to large amount of information. It is used in accessing large databases.
- It is also called as hashing.

Advantages of direct access file organization

- Direct access file helps in online transaction processing system (OLTP) like online railway reservation system.
- In direct access file, sorting of the records are not required.
- It accesses the desired records immediately.
- It updates several files quickly.
- It has better control over record allocation.

Disadvantages of direct access file organization

- Direct access file does not provide back up facility.
- It is expensive.
- It has less storage space as compared to sequential file.
- This file have multiple keys. These keys can be alphanumeric in which the records are ordered is called primary key.

- The data can be accessed either sequentially or randomly using the index. The index is stored in a file and read into memory when the file is opened.

Software Required: g++ / gcc compiler- / 64 bit Fedora, eclipse IDE

Input: Insert records

Output: Display records

Conclusion: