

ASSIGNMENT 9

Aim:-

Company maintains employee information as employee ID, name, designation and salary. Allow user to add, delete information of employee. Display information of particular employee. If employee does not exist an appropriate message is displayed. If it is, then the system displays the employee details. Use index sequential file to maintain the data.

Objective:-

To Display information of particular employee. If employee does not exist an appropriate message is displayed. If it is, then the system displays the employee details. Use index sequential file to maintain the data.

Theory:-

Indexing mechanisms are used to optimize certain accesses to data (records) managed in files. For example, the author catalog in a library is a type of index.

- Search Key (definition): attribute or combination of attributes used to look up records in a file.
- An Index File consists of records (called index entries) of the form search key value pointer to block in data file
- Index files are typically much smaller than the original file because only the values for search key and pointer are stored.
- There are two basic types of indexes: – Ordered indexes: Search keys are stored in a sorted order (main focus here in class). – Hash indexes: Search keys are distributed uniformly across “buckets” using a hash function.

Code:-

```
#include <iostream>
#include<fstream>
#include<string>
using namespace std;
typedef struct seq_file
{
    int id;
    char name[20],desg[20];
    long int sal;
}record;
typedef struct ind_file
{
    int id;
}index;
class file
```

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```
{
    record data;
    index info;
public:
    void get_data()
    {
        cout<<"Enter id: ";
        cin>>data.id;
        cout<<"Enter name: ";
        cin>>data.name;
        cout<<"Enter designation: ";
        cin>>data.desg;
        cout<<"Enter salary: ";
        cin>>data.sal;
        info.id=data.id;
    }
    void add()
    {
        fstream out1;
        fstream out2;
        out1.open("pos.txt",ios::app);
        out2.open("rec.txt",ios::app);
        get_data();
        out2.write((char*)&data,sizeof(data));
        out1.write((char*)&info,sizeof(info));
        out1.close();
        out2.close();
    }
    void search_rec(int id)
    {
        int pos=0,loc=-1;
        fstream out1;
        fstream out2;
        out1.open("pos.txt");
        out2.open("rec.txt");
        loc=sizeof(info)*pos;
        out2.seekg(loc,ios::beg);
        for(pos=0;out2.read((char*)&info,sizeof(info));pos++)
        {
            loc=sizeof(info)*pos;
            out2.seekg(loc,ios::beg);
            out2.read((char*)&info,sizeof(info));
            if(info.id==id)
            {
                break;
            }
        }
        if(loc==-1)
        {
            cout<<"Record not found\n";
        }
        else
        {
            pos--;
        }
    }
}
```

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```
        pos=sizeof(data)*pos;
        out1.seekg(pos,ios::beg);
        out1.read((char*)&data,sizeof(data));
        cout<<"Record found\n";

    cout<<data.id<<"\t"<<data.name<<"\t"<<data.desg<<"\t"<<data.sal<<endl;
    }
    out1.close();
    out2.close();
}


};

int main()
{
    char r;
    do
    {
        char op;
        file f;
        do
        {
            int c;
            cout<<"\n=====Menu=====\\n";
            cout<<"1] Add record\\n2] Search record\\n3] Delete record\\n";
            cout<<"_____\\n";
            cout<<"Enter your choice: ";
            cin>>c;
            switch(c)
            {
                case 1: {
                            f.add();
                        }
                        break;
                case 2: {
                            int id;
                            cout<<"Enter id to search: ";
                            cin>>id;
                            f.search_rec(id);
                        }
                        break;
                case 3: {
                            }
                            break;
                case 4: {
                            }
                            break;
                default:cout<<"Error 404.....page not found\\n";
            }
            cout<<"Do you wish to continue(y/n): ";
            cin>>op;
        }while(op=='y' || op=='Y');
        cout<<"Test pass(y/n): ";
        cin>>r;
    }
}
```

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```
    }while(r=='n' || r=='N');  
    cout<<"*****\n";  
    cout<<"*   Thank You!   *\n";  
    cout<<"*****\n";  
    return 0;  
}
```

Output Screenshot:-

 "C:\Users\Dell\Downloads\main (6).exe"

```
=====Menu=====  
1] Add record  
2] Search record  
3] Delete record  
  
Enter your choice: 1  
Enter id: 1  
Enter name: Manoj  
Enter designation: hr  
Enter salary: 12000  
Do you wish to continue(y/n): y  
  
=====Menu=====  
1] Add record  
2] Search record  
3] Delete record  
  
Enter your choice: 2  
Enter id to search: 1  
Record found  
1      Manoj      hr      12000  
Do you wish to continue(y/n): y  
  
=====Menu=====  
1] Add record  
2] Search record  
3] Delete record  
  
Enter your choice: 3  
Do you wish to continue(y/n): n  
Test pass(y/n): t  
*****  
*   Thank You!   *  
*****  
  
Process returned 0 (0x0)   execution time : 41.124 s  
Press any key to continue.
```