

ASSIGNMENT 8

AIM:-

Department maintains a student information. the file contains roll number, name, division and address. Allow user to add, delete information of student. display information of particular employee. If record of student does not exist, an appropriate message is displayed. If it is, then the system displays the student details. use sequential file to maintain the data.

OBJECTIVE:-

To implement file handling and perform functions like insertion, deletion and display of record using sequential file.

THEORY:-

A **sequential file** is one that contains and stores data in chronological order. The data itself may be ordered or un-ordered in the file. Unlike a **random-access file**, sequential files must be read from the beginning, up to the location of the desired data. Sequential files are often stored on **sequential access** devices, like a magnetic tape.

ALGORITHM:-

1.CREATE A FILE HAVING COLLECTION OF RECORDS

```
void Create()
{
    char ch='y';
    ofstream seqfile;
    seqfile.open("stud.DAT",ios::out|ios::binary);
    do
    {
        cout<<"\n Enter roll no: ";
        cin>>Records.rollno;
        seqfile.write((char*)&Records,sizeof(Records));
        cout<<"\nDo you want to add more records?";
```

```
    cin>>ch;

    }while(ch=='y');

    seqfile.close();

}
```

2.DISPLAY OF FILE

Void Display()

```
{

    ifstream seqfile;

    seqfile.open("stud.DAT",ios::in|ios::binary);

    seqfile.seekg(0,ios::beg);

    cout<<"\n The Contents of file are ..."<<endl;

    while(seqfile.read((char *)&Records,sizeof(Records)))

    {

        if(Records.rollno!=-1)

        {

            cout<<"\nRoll No: "<<Records.rollno;

        }

    }

    seqfile.close();

}
```

3.SEARCHING A RECORD

int :Search()

```
{

    fstream seqfile;

    int id,pos,offset;

    cout<<"\n Enter the no for searching the record ";

    cin>>id;
```

```
seqfile.open("stud.DAT",ios::in|ios::binary);
pos=-1;
seqfile.seekg(0,ios::beg);
int i=0;
while(seqfile.read((char *)&Records,sizeof(Records)))
{
    if(id==Records.rollno)
    {
        pos=i;
        break;
    }
    i++;
}
seqfile.close();
return pos;
}
```

4.DELETION OF RECORD:-

```
void deletion()
{
    int id,pos;
    cout<<"For deletion"<<endl;
    fstream seqfile;
    pos=Search();
    seqfile.open("stud.DAT",ios::in|ios::binary|ios::out);
    seqfile.seekg(0,ios::beg);
    if(pos==-1)
    {
```

```
        cout<<"\n Record is not present in the file";  
        return;  
    }  
    int offset=pos*sizeof(Records);  
    seqfile.seekp(offset);  
    Records.rollno=-1;  
    seqfile.write((char *)&Records,sizeof(Records));  
    seqfile.seekg(0);  
    seqfile.close();  
  
}
```

#endif // SDASSIGNMENT8_CPP_INCLUDED

PROGRAM CODE:-

```
#include<iostream>  
#include<fstream>  
#include<string.h>  
using namespace std;  
typedef struct data  
{  
    char name[10];  
    int rollno;  
    char div;  
    char address[100];
```

```
}Rec;

class student
{

    Rec Records;

    public:

        void Create();

        void Display();

        int Search();

        void deletion();

};

void student::Create()
{
    char ch='y';
    ofstream seqfile;
    seqfile.open("stud.DAT",ios::out|ios::binary);
    do
    {
        cout<<"\n Enter Name: ";
        cin>>Records.name;
        cout<<"\n Enter roll no: ";
        cin>>Records.rollno;
        cout<<"\n Enter division";
        cin>>Records.div;
        cout<<"\n Enter ADDRESS: ";
        cin>>Records.address;
```

```

    seqfile.write((char*)&Records,sizeof(Records));

    cout<<"\nDo you want to add more records?";

    cin>>ch;

    }while(ch=='y');

    seqfile.close();
}

void student::Display()
{
    ifstream seqfile;

    seqfile.open("stud.DAT",ios::in|ios::binary);

    seqfile.seekg(0,ios::beg);

    cout<<"\n The Contents of file are ..."<<endl;

    while(seqfile.read((char *)&Records,sizeof(Records)))
    {
        if(Records.rollNo!=-1)
        {
            cout<<"\nName: "<<Records.name<<flush;

            cout<<"\nRoll No: "<<Records.rollNo;

            cout<<"\nDivision : "<<Records.div;

            cout<<"\nAddress: "<<Records.address;

            cout<<"\n";

        }
    }

    seqfile.close();
}

int student::Search()
{

```

```
fstream seqfile;
int id,pos,offset;
cout<<"\n Enter the roll no for searching the record ";
cin>>id;
seqfile.open("stud.DAT",ios::in|ios::binary);
pos=-1;
seqfile.seekg(0,ios::beg);
int i=0;
while(seqfile.read((char *)&Records,sizeof(Records)))
{
    if(id==Records.rollno)
    {
        pos=i;
        break;
    }
    i++;
}
seqfile.close();
return pos;
}

void student::deletion()
{
    int id,pos;
    cout<<"For deletion"<<endl;
    fstream seqfile;
    pos=Search();
    seqfile.open("stud.DAT",ios::in|ios::binary|ios::out);
```

```

        seqfile.seekg(0,ios::beg);
        if(pos==-1)
        {
            cout<<"\n Record is not present in the file";
            return;
        }
        int offset=pos*sizeof(Records);
        seqfile.seekp(offset);
        strcpy(Records.name,"");
        Records.rollno=-1;
        Records.div=-1;
        strcpy(Records.address,"");
        seqfile.write((char *)&Records,sizeof(Records));
        seqfile.seekg(0);
        seqfile.close();

    }

    int main()
    {
        student e;
        char ans='y';
        int choice,key;
        int h=0;
        do
        {
            cout<<"1.Create"<<endl;
            cout<<"2.Display"<<endl;

```



```
cout<<"3.Search"<<endl;
cout<<"4.Delete"<<endl;
cout<<"Enter your choice"<<endl;
cin>>choice;

    switch(choice)
    {
    case 1:
        e.Create();
        break;
    case 2:
        e.Display();
        break;
    case 3:
        h=e.Search();
        if(h<0)
            cout<<"\n Student not present in file"<<endl;
        else
            cout<<"\n Student is present in file"<<endl;
        break;
    case 4:
        e.deletion();
        break;
    }
    cout<<"Do you want to continue"<<endl;
    cin>>ans;

}while (ans=='y');

return 0;
```

```
}
```

OUTPUT:-

```
C:\Users\USER\Downloads\bf.exe
1.Create
2.Display
3.Search
4.Delete
Enter your choice
1
Enter Name: ayush
Enter roll no: 50
Enter division:c
Enter ADDRESS: discasfvc
Do you want to add more records?y
Enter Name: rajvi
Enter roll no: 25
Enter division:c
Enter ADDRESS: qwfsaff
Do you want to add more records?y
Enter Name: raj
Enter roll no: 51
Enter division:c
Enter ADDRESS: addfsd
Do you want to add more records?n
Do you want to continue
y
1.Create
2.Display
3.Search
4.Delete
Enter your choice
2
The Contents of file are ...
Name: ayush
Roll No: 50
Division :c
Address: discasfvc
```

```
Select C:\Users\USER\Downloads\bf.exe
Name: rajvi
Roll No: 25
Division :c
Address: qwfsaff
Name: raj
Roll No: 51
Division :c
Address: addfsd
Do you want to continue
y
1.Create
2.Display
3.Search
4.Delete
Enter your choice
3
Enter the roll no for searching the record 50
Student is present in file
Do you want to continue
y
1.Create
2.Display
3.Search
4.Delete
Enter your choice
4
For deletion
Enter the roll no for searching the record 51
Do you want to continue
y
1.Create
2.Display
3.Search
4.Delete
Enter your choice
2
The Contents of file are ...
Name: ayush
Roll No: 50
Division :c
Address: discasfvc
Name: rajvi
Roll No: 25
Division :c
```

CONCLUSION:-

We have successfully implemented file handling and performed functions like insertion, deletion and display of record using sequential file.

