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Class: SE-IT

Div: B-3

Subject: DSA LAB

Practical 10: File Handling

Aim: Department maintains student's database. The file contains roll number, name, division and address. Write a program to create a sequential file to store and maintain student data. It should allow the user to add, delete information of student. Display information of particular student. If record of student does not exist an appropriate message is displayed. If student record is found it should display the student details.

*****PROGRAM*****

```
#include<iostream>
#include<fstream>
#include<stdlib.h>
#include<string.h> using
namespace std;

class file
{
    int roll;
    float age; char
    name[100];
public:
    void input(); void
    show();
    char *getn()
    { return name;
    }
};

file fileobj;
fstream fil;
```

```

void file::input()
{ cout<<"Enter the Roll No., Age and Name: ";
  cin>>roll>>age; cin>>name;
}

```

```

void file::show()
{ cout<<"Roll==> "<<roll<<endl; cout<<"Age
  ==> "<<age<<endl; cout<<"Name==>
  "<<name<<endl;
}

```

```

void Create()          //Function to Create Data File
{
    char ch='y'; fil.open("binary.dat",ios::out|
        ios::binary);

    while(ch=='y' || ch=='Y')
    {
        fileobj.input();
        fil.write((char*)&fileobj, sizeof(fileobj)); cout<<"Want to
        Continue enter 'Y' else enter any key: "; cin>>ch;
    }
    fil.close();
}

```

```

void Add() //Function to Add New Record in Data File {
    char ch='y'; fil.open("binary.dat",ios::out|ios::app|
        ios::binary);

    while(ch=='y' || ch=='Y')
    {
        fileobj.input();
        fil.write((char*)&fileobj, sizeof(fileobj));
    }
}

```

```

        cout<<"Want to Continue enter 'Y' else enter any key: ";
        cin>>ch;
    }
    fil.close();
}

```

```

void Display()          //Function to Display All Record from Data File
{
    fil.open("binary.dat",ios::in | ios::binary); if(!fil)
    { cout<<"File not Found"; exit(0);
    }
    else
    {
        fil.read((char*)&fileobj, sizeof(fileobj)); while(!fil.eof())
        {
            fileobj.show();
            fil.read((char*)&fileobj, sizeof(fileobj));
        }
    }
    fil.close();
}

```

```

void DisplayP()        //Function to Display particular Record from Data File { char n[100];

    cout<<"Enter the name that should be searched: "; cin>>n;
    fil.open("binary.dat",ios::in | ios::binary); if(!fil)
    { cout<<"File not Found"; exit(0);
    }
    else
    {
        fil.read((char*)&fileobj, sizeof(fileobj)); while(!fil.eof())
        {
            if(strcmp(n,fileobj.getn())==0)
            {
                fileobj.show(); fil.close();
                return; }
        }
    }
}

```

```

        fil.read((char*)&fileobj, sizeof(fileobj));
    }
    cout<<"Record not found\n";
}
fil.close();
}

void Modify()           //Function to Modify Particular Record from Data File
{ char n[100];

    cout<<"Enter the name that should be searched: "; cin>>n;
    fil.open("binary.dat",ios::in| ios::out| ios::binary); if(!fil)
    { cout<<"File not Found"; exit(0);
    }
    else
    {
        fil.read((char*)&fileobj, sizeof(fileobj)); while(!fil.eof())
        {
            if(strcmp(n,fileobj.getn())==0)
            {
                fil.seekg(0,ios::cur); cout<<"Enter New
                Record: "<<endl; fileobj.input();

                int p=fil.tellg(); int
                q=sizeof(fileobj);
                fil.seekp(p-q);

                fil.write((char*)&fileobj, sizeof(fileobj));
                fil.close();
                return; }
            fil.read((char*)&fileobj, sizeof(fileobj));
        }
        cout<<"Record not found\n";
    }
    fil.close();
}

```

```

void Delete()          //Function to Delete Particular Record from Data File
{
    int flag=0;
    char n[100];

    cout<<"Enter the name that should be deleted :";
    cin>>n; ofstream o;
    o.open("new.dat",ios::out|ios::binary);
    fil.open("binary.dat",ios::in| ios::binary); if(!fil)
    { cout<<"File not Found"; exit(0);
    }
    else
    {
        fil.read((char*)&fileobj, sizeof(fileobj)); while(!fil.eof())
        {
            if(strcmp(n,fileobj.getn())!=0)
                o.write((char*)&fileobj, sizeof(fileobj));
            else flag=1;
            fil.read((char*)&fileobj, sizeof(fileobj));
        } if(flag==0) cout<<"Record not
        found\n";
    }
    o.close();
    fil.close(); remove("binary.dat");
    rename("new.dat", "binary.dat");
}

main()
{
    int opt;
    while(1)
    { cout<<"1.Create Data File"<<endl; cout<<"2.Add New Record in Data
      File"<<endl; cout<<"3.Display Record From Data File"<<endl;
      cout<<"4.Display Particular Record From Data File"<<endl;
      cout<<"5.Modify Particular Record From Data File"<<endl;
      cout<<"6.Delete Particular Record From Data File"<<endl;

```

```
cout<<"7.Exit From the Program"<<endl; cout<<"Enter your Option  
: "<<endl; cin>>opt;
```

```
switch(opt)
```

```
{
```

```
    case 1: Create();
```

```
        cout<<"\nDisplay Main Menu"<<endl; break;
```

```
    case 2: Add();
```

```
        cout<<"\nDisplay Main Menu"<<endl; break;
```

```
    case 3: Display();
```

```
        cout<<"\nDisplay Main Menu"<<endl; break;
```

```
    case 4: DisplayP();
```

```
        cout<<"\nDisplay Main Menu"<<endl; break;
```

```
    case 5: Modify();
```

```
        cout<<"\nDisplay Main Menu"<<endl; break;
```

```
    case 6: Delete();
```

```
        cout<<"\nDisplay Main Menu"<<endl; break;
```

```
    case 7: exit(0);
```

```
    default:
```

```
        cout<<"Wrong Choice....Press any key for going back to
```

```
the Main Menu";
```

```
    }
```

```
}
```

```
}
```

*****OUTPUT*****

```
[admin@fedora ~]$ g++ hfbdsa10.cpp
```

```
[admin@fedora ~]$ ./a.out
```

1.Create Data File

2.Add New Record in Data File

3.Display Record From Data File

4.Display Particular Record From Data File

5.Modify Particular Record From Data File

6.Delete Particular Record From Data File

7.Exit From the Program Enter your Option :

1

Enter the Roll No., Age and Name: 12 20 Ashutosh

Want to Continue enter 'Y' else enter any key: Y

Enter the Roll No., Age and Name: 04 19 Hanzala

Want to Continue enter 'Y' else enter any key: N

Display Main Menu

1.Create Data File

2.Add New Record in Data File

3.Display Record From Data File

4.Display Particular Record From Data File

5.Modify Particular Record From Data File

6.Delete Particular Record From Data File

7.Exit From the Program Enter your Option :

3

Roll==> 12

Age ==> 20

Name==> Ashutosh

Roll==> 4

Age ==> 19

Name==> Hanzala

Display Main Menu

1.Create Data File

2.Add New Record in Data File

3.Display Record From Data File

4.Display Particular Record From Data File

5.Modify Particular Record From Data File

6.Delete Particular Record From Data File

7.Exit From the Program Enter your Option :

2

Enter the Roll No., Age and Name: 50 18 Venky

Want to Continue enter 'Y' else enter any key: N

Display Main Menu

1.Create Data File

2.Add New Record in Data File

3.Display Record From Data File

4.Display Particular Record From Data File

5.Modify Particular Record From Data File

6.Delete Particular Record From Data File

7.Exit From the Program Enter your Option :

3

Roll==> 12

Age ==> 20

Name==> Ashutosh

Roll==> 4

Age ==> 19

Name==> Hanzala

Roll==> 50

Age ==> 18

Name==> Venky

Display Main Menu

1.Create Data File

2.Add New Record in Data File

3.Display Record From Data File

4.Display Particular Record From Data File

5.Modify Particular Record From Data File

6.Delete Particular Record From Data File

7.Exit From the Program Enter your Option :

4

Enter the name that should be searched: Venky

Roll==> 50

Age ==> 18

Name==> Venky

Display Main Menu

- 1.Create Data File
- 2.Add New Record in Data File
- 3.Display Record From Data File
- 4.Display Particular Record From Data File
- 5.Modify Particular Record From Data File
- 6.Delete Particular Record From Data File
- 7.Exit From the Program Enter your Option :

5

Enter the name that should be searched: Hanzala Enter
New Record:

Enter the Roll No., Age and Name: 13 17 Tom

Display Main Menu

- 1.Create Data File
- 2.Add New Record in Data File
- 3.Display Record From Data File
- 4.Display Particular Record From Data File
- 5.Modify Particular Record From Data File
- 6.Delete Particular Record From Data File
- 7.Exit From the Program Enter your Option :

3

Roll==> 12

Age ==> 20

Name==> Ashutosh

Roll==> 13

Age ==> 17

Name==> Tom

Roll==> 50

Age ==> 18

Name==> Venky

Display Main Menu

- 1.Create Data File
- 2.Add New Record in Data File
- 3.Display Record From Data File

4.Display Particular Record From Data File
5.Modify Particular Record From Data File
6.Delete Particular Record From Data File
7.Exit From the Program Enter your Option :
6
Enter the name that should be deleted :Tom

Display Main Menu

1.Create Data File
2.Add New Record in Data File
3.Display Record From Data File
4.Display Particular Record From Data File
5.Modify Particular Record From Data File
6.Delete Particular Record From Data File
7.Exit From the Program Enter your Option :
3

Roll==> 12

Age ==> 20

Name==> Ashutosh

Roll==> 50

Age ==> 18

Name==> Venky

Display Main Menu

1.Create Data File
2.Add New Record in Data File
3.Display Record From Data File
4.Display Particular Record From Data File
5.Modify Particular Record From Data File
6.Delete Particular Record From Data File
7.Exit From the Program Enter your Option :
7

[admin@fedora ~]\$