Lab Experiment No.10

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Roll No.:14

Class : SE-IT

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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.

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#include<iostream>

#include<fstream>

#include<cstring>

using namespace std;

class Student

{

char name[30];

int roll;

char division;

string address;;

public:

void createdatabase(int);

void display();

void addrecord(int);

int Delete();

void search();

};

void Student::createdatabase(int n)

{

Student temp;

ofstream fout;

fout.open("StudentData.txt");

for(int i=1;i<=n;i++)

{

cout<<"Enter Name\n";

cin>>temp.name;

cout<<"Enter Roll No\n";

cin>>temp.roll;

cout<<"Enter Division\n";

cin>>temp.division;

cout<<"Enter address\n";

cin>>temp.address;

fout.write((char\*)&temp,sizeof(temp));

}

fout.close();

}

void Student::display()

{

Student temp;

ifstream fin;

fin.open("StudentData.txt");

cout<<"Roll No\tName\tDivision\tAddress\n";

while(fin.read((char\*)&temp,sizeof(temp)))

{

cout<<temp.roll<<"\t\t"<<temp.name<<"\t\t"<<temp.division<<"\t\t"<<temp.address<<"\n";

}

fin.close();

}

void Student::addrecord(int n)

{

Student temp;

ofstream fout;

fout.open("StudentData.txt",ios::app);

for(int i=1;i<=n;i++)

{

cout<<"Enter Name\n";

cin>>temp.name;

cout<<"Enter Roll No\n";

cin>>temp.roll;

cout<<"Enter Division\n";

cin>>temp.division;

cout<<"Enter address\n";

cin>>temp.address;

fout.write((char\*)&temp,sizeof(temp));

}

fout.close();

}

int Student::Delete()

{ Student temp;

cout<<"\nEnter roll no. of the student : ";

int rno, flag = 0;

cin>>rno;

fstream read\_file("StudentData.txt", ios::in); //open file in read mode

fstream newFile("temp.txt", ios::out); //create new temp file for temporary data storage

read\_file.read((char\*)&temp, sizeof(temp));

while(!read\_file.eof())

{

if(temp.roll != rno)

{

newFile.write((char\*)&temp, sizeof(temp)); //write to the temp file

}

else

{

cout<<"\nRecord Found and Deleted!\n";

flag = 1;

}

read\_file.read((char\*)&temp, sizeof(temp)); //read next record from the

}

read\_file.close();

newFile.close();

remove("StudentData.txt");

rename("temp.txt", "StudentData.txt");

return flag;

}

void Student::search()

{

fstream read\_file("StudentData.txt", ios::in); //open file in reading mode

Student temp;

if(!read\_file)

{

cout<<"\nFile Not Found !\nCheck local directory, or try creating the file first from Menu option\n";

return;

}

else

{

bool flag = false;

cout<<"\nEnter roll no. to be searched : ";

int key;

cin>>key;

read\_file.read((char\*)&temp, sizeof(temp)); //read first record

while(!read\_file.eof()) //search till end of file

{

if(temp.roll == key) //if key is equal to correct roll number

{

cout<<"\nRecord found !\n";

flag = true; //set flag

cout<<"\nRoll No.\tName\t\tDivision\t\tAddress\n---------------------------------------------------------------------------";

cout<<"\n"<<temp.roll<<"\t\t"<<temp.name<<"\t"<<temp.division<<"/"<<"\t\t"<<temp.address; //display student details

break;

}

else

{

read\_file.read((char\*)&temp, sizeof(temp)); //read next record

}

}

if(!flag) //if roll no. is not found

cout<<"\nRecord not found !\n";

}

}

int main()

{

int n,ch,x,z=0;

Student obj;

cout<<"\nEnter how many records you want to enter\n";

cin>>n;

do

{

cout<<"\nEnter\n1.Create Database \n2.Display Database \n3.Add New Record \n4.Delete a record \n5.Search a Record\n6.End\n";

cin>>ch;

switch(ch)

{

case 1:

obj.createdatabase(n);

break;

case 2:

obj.display();

break;

case 3:

cout<<"\nEnter how many records you want to Add\n";

cin>>x;

obj.addrecord(x);

break;

case 4:

z=obj.Delete();

if(z)

cout<<"\nData has been deleted\n";

else

cout<<"\nRoll No not found\n";

break;

case 5:

obj.search();

break;

case 6:

break;

default:

cout<<"\nWrong value entered\n";

}

}while(ch!=6);

return 0;

}

**OUTPUT:**

Enter how many records you want to enter

4

Enter

1.Create Database

2.Display Database

3.Add New Record

4.Delete a record

5.Search a Record

6.End

1

Enter Name

ABC

Enter Roll No

1

Enter Division

A

Enter address

Warje

Enter Name

XYZ

Enter Roll No

2

Enter Division

B

Enter address

Pune

Enter Name

PQR

Enter Roll No

3

Enter Division

C

Enter address

Wakad

Enter Name

WWE

Enter Roll No

4

Enter Division

D

Enter address

NewYoRK

Enter

1.Create Database

2.Display Database

3.Add New Record

4.Delete a record

5.Search a Record

6.End

2

Roll No Name Division Address

1 ABC A Warje

2 XYZ B Pune

3 PQR C Wakad

4 WWE D NewYoRK

Enter

1.Create Database

2.Display Database

3.Add New Record

4.Delete a record

5.Search a Record

6.End

3

Enter how many records you want to Add

1

Enter Name

nwe

Enter Roll No

5

Enter Division

E

Enter address

Narhe

Enter

1.Create Database

2.Display Database

3.Add New Record

4.Delete a record

5.Search a Record

6.End

2

Roll No Name Division Address

1 ABC A Warje

2 XYZ B Pune

3 PQR C Wakad

4 WWE D NewYoRK

5 nwe E Narhe

Enter

1.Create Database

2.Display Database

3.Add New Record

4.Delete a record

5.Search a Record

6.End

5

Enter roll no. to be searched : 4

Record found !

Roll No. Name Division Address

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4 WWE D/ NewYOrk

Enter

1.Create Database

2.Display Database

3.Add New Record

4.Delete a record

5.Search a Record

6.End

4

Enter roll no. of the student : 4

Record Found and Deleted!

Data has been deleted

Enter

1.Create Database

2.Display Database

3.Add New Record

4.Delete a record

5.Search a Record

6.End