**Assignment number:12**

**Subject: ADVANCED DATA STRUCTURES LAB**

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Class: ***SECOND YEAR ENGINEERING***

Division: ***B***

Roll no: ***222008***

Batch: ***B1***

**PROBLEM STATEMENT:**

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 main the data.

**Code:**

#include<iostream>

#include<fstream>

#include<cstring>

using namespace std;

class student

{

public:

int rollNo,roll1;

char name[10];

char div[10];

char address[20];

void accept()

{

cout<<"\n\tEnter Roll Number : ";

cin>>rollNo;

cout<<"\n\tEnter the Name : ";

ws(cin);

cin.getline(name,100);

cout<<"\n\tEnter the Division:";

ws(cin);

cin.getline(div,10);

cout<<"\n\tEnter the Address:";

ws(cin);

cin.getline(address,10);

}

void accept2()

{

cout<<"\n\tEnter the Roll No. to modify : ";

cin>>rollNo;

}

void accept3()

{

cout<<"\n\tEnter the name to modify : ";

ws(cin);

cin.getline(name,100);

}

int getRollNo()

{

return rollNo;

}

void show()

{

cout<<"\n\t"<<rollNo<<"\t\t"<<name<<"\t\t"<<div<<"\t\t"<<address;

}

};

class details

{

public:

int call()

{

int i,n,ch,ch1,rec,start,count,add,n1,add2,start2,n2,y,a,b,on,oname,add3,start3,n3,y1,add4,start4,n4;

char name[20],name2[20];

student t1;

count=0;

fstream g,f;

do

{

cout<<"\n----------------MENU-------------------\n";

cout<<"\n1.Insert and overwrite\n2.Show\n3.Search & Edit(number)\n4.Search & Edit(name)\n5.Search & Edit(onlynumber)\n6.Search & edit(only name)\n 7.Delete a Student Record\n 8.Exit\n\tEnter the Choice\t:";

cin>>ch;

switch(ch)

{

case 1:

f.open("StuRecord.txt",ios::out);

x:t1.accept();

f.write((char\*) &t1,(sizeof(t1)));

cout<<"\nDo you want to enter more records?\n1.Yes\n2.No\n";

cin>>ch1;

if(ch1==1)

goto x;

else

{

f.close();

break;

}

case 2:

f.open("StuRecord.txt",ios::in);

f.read((char\*) &t1,(sizeof(t1)));

//cout<<"\n\tRoll No.\t\tName \t\t Division \t\t Address";

while(f)

{

t1.show();

f.read((char\*) &t1,(sizeof(t1)));

}

f.close();

break;

case 3:

cout<<"\nEnter the roll number you want to find";

cin>>rec;

f.open("StuRecord.txt",ios::in|ios::out);

f.read((char\*)&t1,(sizeof(t1)));

while(f)

{

if(rec==t1.rollNo)

{

cout<<"\nRecord found";

add=f.tellg();

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

start=f.tellg();

n1=(add-start)/(sizeof(t1));

f.seekp((n1-1)\*sizeof(t1),ios::beg);

t1.accept();

f.write((char\*) &t1,(sizeof(t1)));

f.close();

count++;

break;

}

f.read((char\*)&t1,(sizeof(t1)));

}

if(count==0)

cout<<"\nRecord not found";

f.close();

break;

case 4:

cout<<"\nEnter the name you want to find and edit";

cin>>name;

f.open("StuRecord.txt",ios::in|ios::out);

f.read((char\*)&t1,(sizeof(t1)));

while(f)

{

y=(strcmp(name,t1.name));

if(y==0)

{

cout<<"\nName found";

add2=f.tellg();

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

start2=f.tellg();

n2=(add2-start2)/(sizeof(t1));

f.seekp((n2-1)\*sizeof(t1),ios::beg);

t1.accept();

f.write((char\*) &t1,(sizeof(t1)));

f.close();

break;

}

f.read((char\*)&t1,(sizeof(t1)));

}

break;

case 5:

cout<<"\n\tEnter the roll number you want to modify";

cin>>on;

f.open("StuRecord.txt",ios::in|ios::out);

f.read((char\*) &t1,(sizeof(t1)));

while(f)

{

if(on==t1.rollNo)

{

cout<<"\n\tNumber found";

add3=f.tellg();

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

start3=f.tellg();

n3=(add3-start3)/(sizeof(t1));

f.seekp((n3-1)\*(sizeof(t1)),ios::beg);

t1.accept2();

f.write((char\*)&t1,(sizeof(t1)));

f.close();

break;

}

f.read((char\*)&t1,(sizeof(t1)));

}

break;

case 6:

cout<<"\nEnter the name you want to find and edit";

cin>>name2;

f.open("StuRecord.txt",ios::in|ios::out);

f.read((char\*)&t1,(sizeof(t1)));

while(f)

{

y1=(strcmp(name2,t1.name));

if(y1==0)

{

cout<<"\nName found";

add4=f.tellg();

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

start4=f.tellg();

n4=(add4-start4)/(sizeof(t1));

f.seekp((n4-1)\*sizeof(t1),ios::beg);

t1.accept3();

f.write((char\*) &t1,(sizeof(t1)));

f.close();

break;

}

f.read((char\*)&t1,(sizeof(t1)));

}

break;

case 7:

int roll;

cout<<"Please Enter the Roll No. of Student Whose Info You Want to Delete: ";

cin>>roll;

f.open("StuRecord.txt",ios::in);

g.open("temp.txt",ios::out);

f.read((char \*)&t1,sizeof(t1));

while(!f.eof())

{

if (t1.getRollNo() != roll)

g.write((char \*)&t1,sizeof(t1));

f.read((char \*)&t1,sizeof(t1));

}

cout << "The record with the roll no. " << roll << " has been deleted " << endl;

f.close();

g.close();

remove("StuRecord.txt");

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

break;

case 8:

cout<<"\n\tThank you\n";

break;

}

}while(ch!=8);

}

};

int main()

{

details obj;

obj.call();

return 0;

}

**OUTPUT:**

----------------MENU-------------------

1.Insert and overwrite

2.Show

3.Search & Edit(number)

4.Search & Edit(name)

5.Search & Edit(onlynumber)

6.Search & edit(only name)

7.Delete a Student Record

8.Exit

Enter the Choice :1

Enter Roll Number : 1

Enter the Name : abc

Enter the Division:b

Enter the Address:pune

Do you want to enter more records?

1.Yes

2.No

1

Enter Roll Number : 4

Enter the Name : rakhi

Enter the Division:b

Enter the Address:pune

Do you want to enter more records?

1.Yes

2.No

1

Enter Roll Number : 5

Enter the Name : amika

Enter the Division:b

Enter the Address:pune

Do you want to enter more records?

1.Yes

2.No

1

Enter Roll Number : 8

Enter the Name : ria

Enter the Division:b

Enter the Address:pune

Do you want to enter more records?

1.Yes

2.No

1

Enter Roll Number : 12

Enter the Name : ankita

Enter the Division:b

Enter the Address:pune

Do you want to enter more records?

1.Yes

2.No

1

Enter Roll Number : 45

Enter the Name : pranav

Enter the Division:b

Enter the Address:pune

Do you want to enter more records?

1.Yes

2.No

1

Enter Roll Number : 52

Enter the Name : honey

Enter the Division:b

Enter the Address:pune

Do you want to enter more records?

1.Yes

2.No

1

Enter Roll Number : 21

Enter the Name : rohit

Enter the Division:b

Enter the Address:pune

Do you want to enter more records?

1.Yes

2.No

1

Enter Roll Number : 56

Enter the Name : arya

Enter the Division:b

Enter the Address:pune

Do you want to enter more records?

1.Yes

2.No

2

----------------MENU-------------------

1.Insert and overwrite

2.Show

3.Search & Edit(number)

4.Search & Edit(name)

5.Search & Edit(onlynumber)

6.Search & edit(only name)

7.Delete a Student Record

8.Exit

Enter the Choice :2

1 abc b pune

4 rakhi b pune

5 amika b pune

8 ria b pune

12 ankita b pune

45 pranav b pune

52 honey b pune

21 rohit b pune

56 arya b pune

----------------MENU-------------------

1.Insert and overwrite

2.Show

3.Search & Edit(number)

4.Search & Edit(name)

5.Search & Edit(onlynumber)

6.Search & edit(only name)

7.Delete a Student Record

8.Exit

Enter the Choice :3

Enter the roll number you want to find8

Record found

Enter Roll Number : 8

Enter the Name : ria

Enter the Division:b

Enter the Address:new

----------------MENU-------------------

1.Insert and overwrite

2.Show

3.Search & Edit(number)

4.Search & Edit(name)

5.Search & Edit(onlynumber)

6.Search & edit(only name)

7.Delete a Student Record

8.Exit

Enter the Choice :2

1 abc b pune

4 rakhi b pune

5 amika b pune

8 ria b new

12 ankita b pune

45 pranav b pune

52 honey b pune

21 rohit b pune

56 arya b pune

----------------MENU-------------------

1.Insert and overwrite

2.Show

3.Search & Edit(number)

4.Search & Edit(name)

5.Search & Edit(onlynumber)

6.Search & edit(only name)

7.Delete a Student Record

8.Exit

Enter the Choice :4

Enter the name you want to find and editria

Name found

Enter Roll Number : 8

Enter the Name : RIA

Enter the Division:b

Enter the Address:new pune

----------------MENU-------------------

1.Insert and overwrite

2.Show

3.Search & Edit(number)

4.Search & Edit(name)

5.Search & Edit(onlynumber)

6.Search & edit(only name)

7.Delete a Student Record

8.Exit

Enter the Choice :2

1 abc b pune

4 rakhi b pune

5 amika b pune

8 RIA b new pune

12 ankita b pune

45 pranav b pune

52 honey b pune

21 rohit b pune

56 arya b pune

----------------MENU-------------------

1.Insert and overwrite

2.Show

3.Search & Edit(number)

4.Search & Edit(name)

5.Search & Edit(onlynumber)

6.Search & edit(only name)

7.Delete a Student Record

8.Exit

Enter the Choice :6

Enter the name you want to find and editRIA

Name found

Enter the name to modify : ria

----------------MENU-------------------

1.Insert and overwrite

2.Show

3.Search & Edit(number)

4.Search & Edit(name)

5.Search & Edit(onlynumber)

6.Search & edit(only name)

7.Delete a Student Record

8.Exit

Enter the Choice :2

1 abc b pune

4 rakhi b pune

5 amika b pune

8 ria b new pune

12 ankita b pune

45 pranav b pune

52 honey b pune

21 rohit b pune

56 arya b pune

----------------MENU-------------------

1.Insert and overwrite

2.Show

3.Search & Edit(number)

4.Search & Edit(name)

5.Search & Edit(onlynumber)

6.Search & edit(only name)

7.Delete a Student Record

8.Exit

Enter the Choice :7

Please Enter the Roll No. of Student Whose Info You Want to Delete: 56

The record with the roll no. 56 has been deleted

----------------MENU-------------------

1.Insert and overwrite

2.Show

3.Search & Edit(number)

4.Search & Edit(name)

5.Search & Edit(onlynumber)

6.Search & edit(only name)

7.Delete a Student Record

8.Exit

Enter the Choice :2

1 abc b pune

4 rakhi b pune

5 amika b pune

8 ria b new pune

12 ankita b pune

45 pranav b pune

52 honey b pune

21 rohit b pune

----------------MENU-------------------

1.Insert and overwrite

2.Show

3.Search & Edit(number)

4.Search & Edit(name)

5.Search & Edit(onlynumber)

6.Search & edit(only name)

7.Delete a Student Record

8.Exit

Enter the Choice :7

Please Enter the Roll No. of Student Whose Info You Want to Delete: 5

The record with the roll no. 5 has been deleted

----------------MENU-------------------

1.Insert and overwrite

2.Show

3.Search & Edit(number)

4.Search & Edit(name)

5.Search & Edit(onlynumber)

6.Search & edit(only name)

7.Delete a Student Record

8.Exit

Enter the Choice :2

1 abc b pune

4 rakhi b pune

8 ria b new pune

12 ankita b pune

45 pranav b pune

52 honey b pune

21 rohit b pune

----------------MENU-------------------

1.Insert and overwrite

2.Show

3.Search & Edit(number)

4.Search & Edit(name)

5.Search & Edit(onlynumber)

6.Search & edit(only name)

7.Delete a Student Record

8.Exit

Enter the Choice :8

Thank you