**ASSIGNMENT NO 11**

#include <iostream>

#include <fstream>

using namespace std;

class Record {

 int rollno;

 string name;

 int division;

 string address;

public:

 Record();

 int getRollno();

 void getData();

 void putData();

};

Record::Record() {

 rollno = 0;

 name = ' ';

 address = ' ';

 division = 0;

}

int Record::getRollno() {  return (rollno);

}

void Record::getData() {  cout << "\nEnter Details: ";  cout << "\nRoll no: ";  cin >> rollno;

 cout << "Name: ";

 cin >> name;

 cout << "Division Code: ";  cin >> division;

 cout << "Address: ";

 cin >> address;

}

void Record::putData() {  cout << "\nRoll No.: ";  cout << rollno;

 cout << "\t\tName: ";  cout << name;

 cout << "\nDivision Code: ";  cout << division;

 cout << "\tAddress: ";  cout << address;

}

class File {

 ifstream fin;

 ofstream fout;

 fstream fs;

public:

 void insert();

 void display();

 void search(int);

 int Delete(int);

 int edit(int);

};

void File::insert() {

 Record r;

 r.getData();

 fout.open("StudentDB", ios::ate | ios::app);  fout.write((char \*)&r, sizeof(r));

 fout.close();

}

void File::display() {

 Record r;

 fin.open("StudentDB");

 fin.seekg(0, ios::beg);

 while (fin.read((char \*)&r, sizeof(r)))  r.putData();

 fin.close();

}

void File::search(int rollno) {

 Record r;

 int flag = 0;

 fin.open("StudentDB");

 fin.seekg(0, ios::beg);

 while (fin.read((char \*)&r, sizeof(r))) {  if (r.getRollno() == rollno) {  flag = 1;

 break;

 }

 }

 fin.close();

 if (flag == 1) {

 cout << "\nRecord Found:";  r.putData();

 }

 else

 cout << "\nRecord not Found "; }

int File::Delete(int rollno) {

 Record r;

 int flag = 0;

 fin.open("StudentDB");

 fout.open("Temp", ios::ate | ios::app);  fin.seekg(0, ios::beg);

 while (fin.read((char \*)&r, sizeof(r))) {  if (r.getRollno() == rollno) {  flag = 1;

 }

 else {

 fout.write((char \*)&r, sizeof(r));

 }

 }

 fin.close();

 fout.close();

 remove("StudentDB");

 rename("Temp", "StudentDB");

 return (flag);

}

int File::edit(int rollno) {

 Record r;

 int flag = 0;

 fs.open("StudentDB");

 fs.seekg(0, ios::beg);

 while (fs.read((char \*)&r, sizeof(r))) {  if (r.getRollno() == rollno) {

 flag = 1;

 cout << "\nEnter New Details: ";  r.getData();

 fs.seekp((int)fs.tellg() - sizeof(r), ios::beg);  fs.write((char \*)&r, sizeof(r));

 }

 }

 fs.close();

 return (flag);

}

int main() {

 File f;

 int ch, n, i, flag = 0;

 do {

 cout << "\n\n\t-----M E N U-----";

 cout << "\n\n1. Build A Master Table";

 cout << "\n2. List A Table";

 cout << "\n3. Insert a New Entry";

 cout << "\n4. Delete Old Entry";

 cout << "\n5. Edit an Entry";

 cout << "\n6. Search for a Record";

 cout << "\n7. Quit";

 cout << "\nEnter your Choice: ";

 cin >> ch;

 switch (ch) {

 case 1:

 if (flag == 0) {

 cout << "\nEnter No of Records to insert : ";

 cin >> n;

 for (i = 0; i < n; i++) {

 f.insert();

 }

 flag = 1;

 }

 else {

 cout << "\nSorry.. Table is Already build... \n If want to add record please select Insert a  New Entry in option.....";

 }

 break;

 case 2:

 f.display();

 break;

 case 3:

 f.insert();

 break;

 case 4:

 cout << "\nEnter Roll No of Student Whose Record is to be Deleted: ";  cin >> n;

 i = f.Delete(n);

 if (i == 1)

 cout << "\nRecord Deleted Successfully";

 else

 cout << "\nRecord not Found";

 break;

 case 5:

 cout << "\nEnter Roll No of Student Whose Record is to be Edit: ";  cin >> n;

 i = f.edit(n);

 if (i == 1)

 cout << "\nRecord Modified Successfully";

 else

 cout << "\nRecord not Found";

 break;

 case 6:

 cout << "\nEnter Roll No of Student Whose Record is to be Searched: ";  cin >> n;

 f.search(n);

 break;

 case 7:

 break;

 default:

 cout << "\nEnter Valid Choice.....";

 }

 } while (ch != 7);

 return (0);

}

**OUTPUT:**

-----M E N U-----

1. Build A Master Table

2. List A Table

3. Insert a New Entry

4. Delete Old Entry

5. Edit an Entry

6. Search for a Record

7. Quit

Enter your Choice: 1

Enter No of Records to insert : 3

Enter Details:

Roll no: 123

Name: Alex

Division Code: 4001

Address: Pune

Enter Details:

Roll no: 456

Name: Loro

Division Code: 4002

Address: Mumbai

Enter Details:

Roll no: 789

Name: Pratik

Division Code: 4003

Address: Delhi

-----M E N U-----

1. Build A Master Table

2. List A Table

3. Insert a New Entry

4. Delete Old Entry

5. Edit an Entry

6. Search for a Record

7. Quit

Enter your Choice: 2

Roll No.: 123 Name: Alex

Division Code: 4001 Address: Pune

Roll No.: 456 Name: Loro

Division Code: 4002 Address: Mumbai

Roll No.: 789 Name: Pratik

Division Code: 4003 Address: Delhi

-----M E N U-----

1. Build A Master Table

2. List A Table

3. Insert a New Entry

4. Delete Old Entry

5. Edit an Entry

6. Search for a Record

7. Quit

Enter your Choice: 3

Enter Details:

Roll no: 159

Name: Yami

Division Code: 4004

Address: Pune

-----M E N U-----

1. Build A Master Table

2. List A Table

3. Insert a New Entry

4. Delete Old Entry

5. Edit an Entry

6. Search for a Record

7. Quit

Enter your Choice: 2

Roll No.: 123 Name: Alex

Division Code: 4001 Address: Pune

Roll No.: 456 Name: Loro

Division Code: 4002 Address: Mumbai

Roll No.: 789 Name: Pratik

Division Code: 4003 Address: Delhi

Roll No.: 159 Name: Yami

Division Code: 4004 Address: Pune

-----M E N U-----

1. Build A Master Table

2. List A Table

3. Insert a New Entry

4. Delete Old Entry

5. Edit an Entry

6. Search for a Record

7. Quit

Enter your Choice: 4

Enter Roll No of Student Whose Record is to be Deleted: 789

Record Deleted Successfully

-----M E N U-----

1. Build A Master Table

2. List A Table

3. Insert a New Entry

4. Delete Old Entry

5. Edit an Entry

6. Search for a Record

7. Quit

Enter your Choice: 2

Roll No.: 123 Name: Alex

Division Code: 4001 Address: Pune

Roll No.: 456 Name: Loro

Division Code: 4002 Address: Mumbai

Roll No.: 159 Name: Yami

Division Code: 4004 Address: Pune

-----M E N U-----

1. Build A Master Table

2. List A Table

3. Insert a New Entry

4. Delete Old Entry

5. Edit an Entry

6. Search for a Record

7. Quit

Enter your Choice: 5

Enter Roll No of Student Whose Record is to be Edit: 123

Enter New Details :

Enter Details:

Roll no: 123

Name: Alex

Division Code: 4001

Address: Pune

Record Modified Successfully

-----M E N U-----

1. Build A Master Table

2. List A Table

3. Insert a New Entry

4. Delete Old Entry

5. Edit an Entry

6. Search for a Record

7. Quit

Enter your Choice: 2

Roll No.: 123 Name: Alex

Division Code: 4001 Address: Pune

Roll No.: 456 Name: Loro

Division Code: 4002 Address: Mumbai

Roll No.: 159 Name: Yami

Division Code: 4004 Address: Pune

-----M E N U-----

1. Build A Master Table

2. List A Table

3. Insert a New Entry

4. Delete Old Entry

5. Edit an Entry

6. Search for a Record

7. Quit

Enter your Choice: 6

Enter Roll No of Student Whose Record is to be Searched: 159

Record Found:

Roll No.: 159 Name: Yami

Division Code: 4004 Address: Pune

-----M E N U-----

1. Build A Master Table

2. List A Table

3. Insert a New Entry

4. Delete Old Entry

5. Edit an Entry

6. Search for a Record

7. Quit

Enter your Choice: 7