**PUNE INSTITUTE OF COMPUTER TECHNOLOGY DHANKAWADI, PUNE**

**Data Structures And Algorithms(DSA)**

**Assignment No. 10**

**Title : File Handling**

**SE-IT-10**  **ACADEMIC YEAR :- 2020-2021**

**Name :- Diptesh Ravindra Varule Roll No :- 23277**

**Source Code :**

//============================================================================

// Name : dsa\_Assignment10.cpp

// Author : Diptesh Varule

// Version : Updating…..

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// Description : Hello World in C++, Ansi-style

//============================================================================

**Source Code:**

#include<fstream>

#include<iostream>

#include<cstring>

#include<cstdlib>

#include <iomanip>

using namespace std;

//Class Database

class Database

{

private:

int rollno;// declaring Variable

char name[100];// declaring name variable

char address[100];// declaring address variable

float marks;// declaring marks variable

public:

void Input\_data();//declaring Input\_Data Method

void display();//declaring display method

int get\_roll()// declarin get\_roll number

{

return rollno;//returning roll number

}

};

//Method Definatiom

void Database::Input\_data()

{

cout<<"Enter the roll number of the Student: ";

cin>>rollno;//entering roll number

cout<<"Enter the name: ";

cin.ignore();

gets(name);//entering nmae

cout<<"Enter the address:";

cin.ignore();

gets(address);//entering address

cout<<"Enter the marks (Out of 50): ";

cin>>marks;//entering marks

//Validation of Marks

if(marks>50){

cout<<"Error!!\nPlease Enter marks appropriately!"<<endl;

cout<<"Enter the marks (Out of 50): ";

cin>>marks;

}

}

//Display Function

void Database::display()

{

cout << "\*\*\*\*\*\*\*\*" << endl;

cout << setw(25) << "Name" << setw(15) << "Roll no." << setw(15) << "Marks" << setw(15) <<"Address"<<endl;

cout << setw(25) << name << setw(15) << rollno << setw(15) << marks << setw(15)<<address<<endl;

}

class record{

public:

fstream file1;

Database fileobj;

Database modified;//Creating Object

void Create();//Create Function Declaration

void Add();// Add Function Declaration

void Display();// Display Function Declaration

void Search();// Search Function Declaration

void Modify();// Modify Function Declaration

void Delete();// Delete Function Declaration

};

void record::Create() //Function to Create DataBase File

{

char ch='y';

file1.open("binary.dat",ios::out| ios::binary);

while(ch=='y' || ch =='Y')

{

fileobj.Input\_data();

file1.write((char\*)&fileobj, sizeof(fileobj));

cout<<"To Continue(y/n): ";

cin>>ch;

}

file1.close();

}

void record::Add() //Function to Add New Record in DataBase File

{

char ch='y';

file1.open("binary.dat",ios::app| ios::binary);

while(ch=='y' || ch =='Y')

{

fileobj.Input\_data();

file1.write((char\*)&fileobj, sizeof(fileobj));

cout<<"To Continue(y/n): ";

cin>>ch;

}

file1.close();

}

void record::Display() //Function to Display All Record from DataBase File

{

file1.open("binary.dat",ios::in| ios::binary);

if(!file1)

{

cout<<"File not Found!";

exit(0);

}

else

{

file1.read((char\*)&fileobj, sizeof(fileobj));

while(!file1.eof())

{

fileobj.display();

file1.read((char\*)&fileobj, sizeof(fileobj));

}

}

file1.close();

}

void record::Search() //Function to Display particular Record from DataBase File

{

int rollnu;

cout<<"Enter Roll No that should be searched:";

cin>>rollnu;

file1.open("binary.dat",ios::in| ios::binary);

if(!file1)

{

cout<<"File not Found!";

exit(0);

}

else

{

file1.read((char\*)&fileobj, sizeof(fileobj));

while(!file1.eof())

{

if(rollnu==fileobj.get\_roll())

fileobj.display();

file1.read((char\*)&fileobj, sizeof(fileobj));

}

}

file1.close();

}

void record::Modify() //Function to Modify Particular Record from DataBase File

{

int rollnu;

cout<<"Enter Roll No. that should be modified:";

cin>>rollnu;

ofstream m;

file1.open("binary.dat",ios::in| ios::out|ios::binary);

m.open("new.dat",ios::out|ios::binary);

if(!file1)

{

cout<<"File not Found";

exit(0);

}

else

{

file1.read((char\*)&fileobj, sizeof(fileobj));

while(!file1.eof())

{

if(rollnu==fileobj.get\_roll())

{

cout<<"Enter New Record:-"<<endl;

modified.Input\_data();

m.write((char\*)&modified, sizeof(modified));

}

else

m.write((char\*)&fileobj, sizeof(fileobj));

file1.read((char\*)&fileobj, sizeof(fileobj));

}

}

m.close();

file1.close();

remove("binary.dat");

rename("new.dat", "binary.dat");

}

void record::Delete() //Function to Delete Particular Record from DataBase File

{

int rollnu;

cout<<"Enter Roll No. that to be deleted:";

cin>>rollnu;

ofstream o;

o.open("new.dat",ios::out|ios::binary);

file1.open("binary.dat",ios::in| ios::binary);

if(!file1)

{

cout<<"File not Found!";

exit(0);

}

else

{

file1.read((char\*)&fileobj, sizeof(fileobj));

while(!file1.eof())

{

if(rollnu!=fileobj.get\_roll())

o.write((char\*)&fileobj, sizeof(fileobj));

file1.read((char\*)&fileobj, sizeof(fileobj));

}

}

o.close();

file1.close();

remove("binary.dat");

rename("new.dat", "binary.dat");

}

//Main Function

int main()

{

cout<<"WELCOME!";

int ch;

record obj;//Object Creation

int pin=1;

while(pin == 1)

{

// Displaying Menu with Choices

cout<<endl;

cout<<endl<<".........Menu........."<<endl;

cout<<"1.Create Database File"<<endl;

cout<<"2.Add New Record"<<endl;

cout<<"3.Display all Records"<<endl;

cout<<"4.Search a Record"<<endl;

cout<<"5.Modify a Record"<<endl;

cout<<"6.Delete a Record"<<endl;

cout<<"7.Exit"<<endl;

cout<<"Enter the Choice : "<<endl;

cin>>ch;

switch(ch)

{

case 1:

{

obj.Create();//Calling Function

break;

}

case 2:

{

obj.Add();// Calling Function

break;

}

case 3:

{

obj.Display();// Calling Display

break;

}

case 4:

{

obj.Search();// Calling Search

break;

}

case 5:

{

obj.Modify();// Calling Function

break;

}

case 6:

{

obj.Delete();// Calling Function

break;

}

case 7:

{

pin=0;

cout<<endl<<"Exiting...."<<endl;

break;

}

default:

{

cout<<"Please Enter the correct Option!";

break;

}

}

}

cout<<endl<<"Thankyou :)";// End Program

}

**Output :**

WELCOME!

.........Menu.........

1.Create Database File

2.Add New Record

3.Display all Records

4.Search a Record

5.Modify a Record

6.Delete a Record

7.Exit

Enter the Choice :

1

Enter the roll number of the Student: 23277

Enter the name: Diptesh Varule

Enter the address:A

Enter the marks (Out of 50): 45

To Continue(y/n): y

Enter the roll number of the Student: 3

Enter the name: Utkarsh Magar

Enter the address:B

Enter the marks (Out of 50): 43

To Continue(y/n): y

Enter the roll number of the Student: 23232 Snehal Kadam

Enter the name: Enter the address:c

Enter the marks (Out of 50): 42

To Continue(y/n): y

Enter the roll number of the Student: 23211

Enter the name: Rushikesh Borse

Enter the address:D

Enter the marks (Out of 50): 49

To Continue(y/n): n

.........Menu.........

1.Create Database File

2.Add New Record

3.Display all Records

4.Search a Record

5.Modify a Record

6.Delete a Record

7.Exit

Enter the Choice :

3

---------------------------------------------

Name Roll no. Marks Address

Diptesh Varule 23277 45

---------------------------------------------

Name Roll no. Marks Address

Utkarsh Magar 3 43

---------------------------------------------

Name Roll no. Marks Address

Snehal Kadam 23232 42

---------------------------------------------

Name Roll no. Marks Address

Rushikesh Borse 23211 49

.........Menu.........

1.Create Database File

2.Add New Record

3.Display all Records

4.Search a Record

5.Modify a Record

6.Delete a Record

7.Exit

Enter the Choice :

4

Enter Roll No that should be searched:23277

---------------------------------------------

Name Roll no. Marks Address

Diptesh Varule 23277 45

.........Menu.........

1.Create Database File

2.Add New Record

3.Display all Records

4.Search a Record

5.Modify a Record

6.Delete a Record

7.Exit

Enter the Choice :

5

Enter Roll No. that should be modified:3

Enter New Record:-

Enter the roll number of the Student: 23243

Enter the name: Utkarsh Magae

Enter the address:B

Enter the marks (Out of 50): 43

.........Menu.........

1.Create Database File

2.Add New Record

3.Display all Records

4.Search a Record

5.Modify a Record

6.Delete a Record

7.Exit

Enter the Choice :

3

---------------------------------------------

Name Roll no. Marks Address

Diptesh Varule 23277 45

---------------------------------------------

Name Roll no. Marks Address

Utkarsh Magae 23243 43

---------------------------------------------

Name Roll no. Marks Address

Snehal Kadam 23232 42

---------------------------------------------

Name Roll no. Marks Address

Rushikesh Borse 23211 49

.........Menu.........

1.Create Database File

2.Add New Record

3.Display all Records

4.Search a Record

5.Modify a Record

6.Delete a Record

7.Exit

Enter the Choice :

6

Enter Roll No. that to be deleted:23232

.........Menu.........

1.Create Database File

2.Add New Record

3.Display all Records

4.Search a Record

5.Modify a Record

6.Delete a Record

7.Exit

Enter the Choice :

3

---------------------------------------------

Name Roll no. Marks Address

Diptesh Varule 23277 45

---------------------------------------------

Name Roll no. Marks Address

Utkarsh Magae 23243 43

---------------------------------------------

Name Roll no. Marks Address

Rushikesh Borse 23211 49

.........Menu.........

1.Create Database File

2.Add New Record

3.Display all Records

4.Search a Record

5.Modify a Record

6.Delete a Record

7.Exit

Enter the Choice :

2

Enter the roll number of the Student: 23319

Enter the name: Abhi Mahajan

Enter the address:E

Enter the marks (Out of 50): 50

To Continue(y/n): n

.........Menu.........

1.Create Database File

2.Add New Record

3.Display all Records

4.Search a Record

5.Modify a Record

6.Delete a Record

7.Exit

Enter the Choice :

3

---------------------------------------------

Name Roll no. Marks Address

Diptesh Varule 23277 45

---------------------------------------------

Name Roll no. Marks Address

Utkarsh Magae 23243 43

---------------------------------------------

Name Roll no. Marks Address

Rushikesh Borse 23211 49

---------------------------------------------

Name Roll no. Marks Address

Abhi Mahajan 23319 50

.........Menu.........

1.Create Database File

2.Add New Record

3.Display all Records

4.Search a Record

5.Modify a Record

6.Delete a Record

7.Exit

Enter the Choice :

7

Exiting....

Thankyou :)