**Assignment No : 10**

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PRN : 72018258B

Roll No : S1951093

Div : B

**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 <stdio.h>

using namespace std;

typedef struct student

{

    int roll;

    char a, name[20], add[30];

} stud;

void create();

void display();

void insert();

void search(int key);

void delete1(int key);

void modify(int key);

int main()

{

    int ch, x;

    do

    {

        cout << "\n\t\*\*\*MENU\*\n1.Create\n2.Display\n3.Insert\n4.Search\n5.Delete\n6.Modify\n7.Exit\nEnter your choice";

        cin >> ch;

        switch (ch)

        {

        case 1:

            create();

            break;

        case 2:

            display();

            break;

        case 3:

            insert();

            break;

        case 4:

            cout << "Enter roll no to search=";

            cin >> x;

            search(x);

            break;

        case 5:

            cout << "Enter roll no to delete=";

            cin >> x;

            delete1(x);

            break;

        case 6:

            cout << "Enter roll no to modify=";

            cin >> x;

            modify(x);

        }

    } while (ch != 7);

    return 0;

}

ifstream fin;

ofstream fout;

fstream fm;

int n;

char fname[20];

void create()

{

    int i;

    stud s;

    cout << "Enter name of the file=";

    cin >> fname;

    fm.open(fname, ios::out);

    cout << "\nEnter no, of records=";

    cin >> n;

    for (i = 0; i < n; i++)

    {

        cout << "Enter roll no=";

        cin >> s.roll;

        cout << "Enter name";

        cin >> s.name;

        cout << "Enter division=";

        cin >> s.a;

        cout << "Enter address=";

        cin >> s.add;

        fm.write((char \*)&s, sizeof(s));

    }

    fm.close();

}

void display()

{

    int i;

    stud s;

    fin.open(fname);

    cout << "\nROLL NO\tNAME\tDIV\tADDRESS";

    while (!fin.eof())

        for (i = 0; i < n; i++)

        {

            fin.read((char \*)&s, sizeof(s));

            cout << "\n"

                 << s.roll << "\t" << s.name << "\t" << s.a << "\t" << s.add;

        }

    fin.close();

}

void insert()

{

    stud s;

    fout.open(fname, ios::app);

    cout << "Enter roll no=";

    cin >> s.roll;

    cout << "Enter name=";

    cin >> s.name;

    cout << "Enter division=";

    cin >> s.a;

    cout << "Enter address=";

    cin >> s.add;

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

    n++;

    fout.close();

}

void search(int key)

{

    stud s;

    int flag = 0, i;

    fin.open(fname);

    for (i = 0; i < n; i++)

    {

        fin.read((char \*)&s, sizeof(s));

        if (s.roll == key)

        {

            cout << "\nRecord is present their corresponding details are:\nRoll no";

            cout << s.roll << "\nName=" << s.name << "\nDivision=" << s.a << "\nAddress=" << s.add;

            flag = 1;

        }

    }

    if (flag == 0)

        cout << "\nRoll no=" << key << "is not present in the record";

    fin.close();

}

void delete1(int key)

{

    stud s;

    int flag = 0, i;

    fin.open(fname);

    fout.open("temp.txt", ios::out);

    for (i = 0; i < n; i++)

    {

        fin.read((char \*)&s, sizeof(s));

        if (s.roll == key)

        {

            cout << "\nRecord deleted successfully";

            flag = 1;

        }

        else

        {

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

        }

    }

    if (flag == 0)

        cout << "\nRoll no=" << key << "is not present in the record";

    else

        n--;

    fin.close();

    fout.close();

    remove(fname);

    rename("temp.txt", fname);

}

void modify(int key)

{

    stud s;

    int flag = 0, i;

    fin.open(fname);

    fout.open("temp.txt", ios::out);

    for (i = 0; i < n; i++)

    {

        fin.read((char \*)&s, sizeof(s));

        if (s.roll == key)

        {

            cout << "Enter roll no=";

            cin >> s.roll;

            cout << "Enter name=";

            cin >> s.name;

            cout << "Enter division=";

            cin >> s.a;

            cout << "Enter address=";

            cin >> s.add;

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

            flag = 1;

        }

        else

        {

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

        }

    }

    if (flag == 0)

        cout << "\nRoll no=" << key << "is not present in the record";

    fin.close();

    fout.close();

    remove(fname);

    rename("temp.txt", fname);

}

**// Output**

\*\*\*MENU\*\*\*

1.Create

2.Display

3.Insert

4.Search

5.Delete

6.Modify

7.Exit

Enter your choice1

Enter name of the file=create

Enter no, of records=5

Enter roll no=1

Enter nameAAAAAA

Enter division=A

Enter address=askdjhks

Enter roll no=2

Enter nameBBBBBBB

Enter division=B

Enter address=fkgjritroejfk

Enter roll no=3

Enter nameCCCCCCCC

Enter division=C

Enter address=fyiopolgk

Enter roll no=4

Enter nameDDDDDDD

Enter division=D

Enter address=dslktuoritelfk

Enter roll no=5

Enter nameEEEEEEE

Enter division=E

Enter address=dflkyuortiopr

\*\*\*MENU\*\*\*

1.Create

2.Display

3.Insert

4.Search

5.Delete

6.Modify

7.Exit

Enter your choice2

ROLL NO NAME DIV ADDRESS

1 AAAAAA A askdjhks

2 BBBBBBB B fkgjritroejfk

3 CCCCCCCC C fyiopolgk

4 DDDDDDD D dslktuoritelfk

5 EEEEEEE E dflkyuortiopr

\*\*\*MENU\*\*\*

1.Create

2.Display

3.Insert

4.Search

5.Delete

6.Modify

7.Exit

Enter your choice3

Enter roll no=7

Enter name=RRRRRRR

Enter division=A

Enter address=ldturot

\*\*\*MENU\*\*\*

1.Create

2.Display

3.Insert

4.Search

5.Delete

6.Modify

7.Exit

Enter your choice4

Enter roll no to search=3

Record is present their corresponding details are:

Roll no3

Name=CCCCCCCC

Division=C

Address=fyiopolgk

\*\*\*MENU\*\*\*

1.Create

2.Display

3.Insert

4.Search

5.Delete

6.Modify

7.Exit

Enter your choice5

Enter roll no to delete=5

Record deleted successfully

\*\*\*MENU\*\*\*

1.Create

2.Display

3.Insert

4.Search

5.Delete

6.Modify

7.Exit

Enter your choice6

Enter roll no to modify=4

Enter roll no=8

Enter name=TTTTTT

Enter division=D

Enter address=dlkgurio

\*\*\*MENU\*\*\*

1.Create

2.Display

3.Insert

4.Search

5.Delete

6.Modify

7.Exit

Enter your choice7