

Assignment No.11

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.

Source Code:

```
#include <iostream>
#include <fstream>
#include <string.h>
using namespace std;

class student {
    typedef struct stud {
        int roll;
        char name[10];
        char div;
        char add[10];
    } stud;

    stud rec;

public:
    void create();
    void display();
    int search();
    void Delete();
};

void student::create() {
    char ans;
    ofstream fout;
    fout.open("stud.dat", ios::out | ios::binary);

    do {
        cout << "\n\tEnter Roll No of Student: ";
        cin >> rec.roll;
        cout << "\n\tEnter Name of Student: ";
        cin >> rec.name;
        cout << "\n\tEnter Division of Student: ";
        cin >> rec.div;
```

```

    cout << "\n\tEnter Address of Student: ";
    cin >> rec.add;

    fout.write((char*)&rec, sizeof(stud)) << flush;

    cout << "\n\tDo You Want to Add More Records (y/n): ";
    cin >> ans;
} while (ans == 'y' || ans == 'Y');

fout.close();
}

void student::display() {
    ifstream fin;
    fin.open("stud.dat", ios::in | ios::binary);
    fin.seekg(0, ios::beg);

    cout << "\n\tThe Content of File are:\n";
    cout << "\n\tRoll\tName\tDiv\tAddress";

    while (fin.read((char*)&rec, sizeof(stud))) {
        if (rec.roll != -1) {
            cout << "\n\t" << rec.roll << "\t" << rec.name << "\t" << rec.div << "\t" <<
rec.add;
        }
    }

    fin.close();
}

int student::search() {
    int r, i = 0;
    ifstream fin;
    fin.open("stud.dat", ios::in | ios::binary);
    fin.seekg(0, ios::beg);

    cout << "\n\tEnter Roll No to Search: ";
    cin >> r;

    while (fin.read((char*)&rec, sizeof(stud))) {
        if (rec.roll == r) {
            cout << "\n\tRecord Found...\n";
            cout << "\n\tRoll\tName\tDiv\tAddress";

```

```

        cout << "\n\t" << rec.roll << "\t" << rec.name << "\t" << rec.div << "\t" <<
rec.add;
        fin.close();
        return i;
    }
    i++;
}

    fin.close();
    return 0;
}

```

```

void student::Delete() {
    int pos = search();
    fstream f;
    f.open("stud.dat", ios::in | ios::out | ios::binary);
    f.seekg(0, ios::beg);

    if (pos == 0) {
        cout << "\n\tRecord Not Found";
        return;
    }

    int offset = pos * sizeof(stud);
    f.seekp(offset);

    rec.roll = -1;
    strcpy(rec.name, "NULL");
    rec.div = 'N';
    strcpy(rec.add, "NULL");

    f.write((char*)&rec, sizeof(stud));
    f.close();

    cout << "\n\tRecord Deleted";
}

```

```

int main() {
    student obj;
    int ch, key;
    char ans;

    do {
        cout << "\n\t***** Student Information *****";

```

```
cout << "\n\t1. Create\n\t2. Display\n\t3. Delete\n\t4. Search\n\t5. Exit";  
cout << "\n\t.... Enter Your Choice: ";  
cin >> ch;
```

```
switch (ch) {  
    case 1:  
        obj.create();  
        break;  
    case 2:  
        obj.display();  
        break;  
    case 3:  
        obj.Delete();  
        break;  
    case 4:  
        key = obj.search();  
        if (key == 0)  
            cout << "\n\tRecord Not Found...\n";  
        break;  
    case 5:  
        cout << "\n\tExiting...";  
        break;  
    default:  
        cout << "\n\tInvalid Choice!";  
}
```

```
cout << "\n\t.... Do You Want to Continue in Main Menu (y/n): ";  
cin >> ans;
```

```
} while (ans == 'y' || ans == 'Y');
```

```
    return 0;  
}
```

Output:

```
Activities Terminal Mon 09:43 cc@CC01: ~/Desktop/SEB32
File Edit View Search Terminal Help
cc@CC01:~/Desktop/SEB32$ g++ DSAPract11.cpp -o a
cc@CC01:~/Desktop/SEB32$ ./a
***** Student Information *****
1. Create
2. Display
3. Delete
4. Search
5. Exit
..... Enter Your Choice: 1
Enter Roll No of Student: 32
Enter Name of Student: Atharva
Enter Division of Student: b
Enter Address of Student: Akurdi
Do You Want to Add More Records (y/n): n
..... Do You Want to Continue in Main Menu (y/n): y
***** Student Information *****
1. Create
2. Display
3. Delete
4. Search
5. Exit
..... Enter Your Choice: 1
Enter Roll No of Student: 29
Enter Name of Student: Aniruddha
Enter Division of Student: B
Enter Address of Student: Akurdi
Do You Want to Add More Records (y/n): n
..... Do You Want to Continue in Main Menu (y/n): y
***** Student Information *****
1. Create
2. Display
3. Delete
4. Search
5. Exit
..... Enter Your Choice: 1
Enter Roll No of Student: 29
Enter Name of Student: Aniruddha
Enter Division of Student: B
Enter Address of Student: Talegoan
Do You Want to Add More Records (y/n): y
Enter Roll No of Student: 31
Enter Name of Student: Kunal
Enter Division of Student: C
Enter Address of Student: Chinchwad
Do You Want to Add More Records (y/n): n
..... Do You Want to Continue in Main Menu (y/n): n
cc@CC01:~/Desktop/SEB32$
```