

## 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.

```
#include <iostream>
```

```
#include <fstream>
```

```
#include <string>
```

```
using namespace std;
```

```
struct Student {
```

```
    string rollNo;
```

```
    string name;
```

```
    string division;
```

```
    string address;
```

```
};
```

```
void addStudent() {
```

```
    Student s;
```

```
    ofstream outFile("students.txt", ios::app);
```

```
    if (!outFile) {
```

```
        cout << "Error opening file!" << endl;
```

```
        return;
```

```
    }
```

```
    cout << "Enter Roll No: ";
```

```
    cin >> s.rollNo;
```

```
    cin.ignore();
```

```

cout << "Enter Name: ";
getline(cin, s.name);
cout << "Enter Division: ";
cin >> s.division;
cin.ignore();
cout << "Enter Address: ";
getline(cin, s.address);

outFile << s.rollNo << "," << s.name << "," << s.division << "," << s.address << endl;
cout << "Student record added successfully!\n";

outFile.close();
}

void displayAllStudents() {
    ifstream inFile("students.txt");
    if (!inFile) {
        cout << "No records found!" << endl;
        return;
    }

    Student s;
    cout << "\n--- Student Records ---\n";
    while (getline(inFile, s.rollNo, ',') &&
           getline(inFile, s.name, ',') &&
           getline(inFile, s.division, ',') &&
           getline(inFile, s.address)) {
        cout << "Roll No: " << s.rollNo << ", Name: " << s.name
              << ", Division: " << s.division << ", Address: " << s.address << endl;
    }
}

```

```

    inFile.close();
}

void searchStudent() {
    ifstream inFile("students.txt");
    if (!inFile) {
        cout << "No records found!" << endl;
        return;
    }

    string rollNo;
    cout << "Enter Roll No to search: ";
    cin >> rollNo;

    Student s;
    bool found = false;

    while (getline(inFile, s.rollNo, ',') &&
           getline(inFile, s.name, ',') &&
           getline(inFile, s.division, ',') &&
           getline(inFile, s.address)) {
        if (s.rollNo == rollNo) {
            cout << "Student Found:\n";
            cout << "Roll No: " << s.rollNo << ", Name: " << s.name
                << ", Division: " << s.division << ", Address: " << s.address << endl;
            found = true;
            break;
        }
    }
}

```

```

    if (!found)
        cout << "Student record not found!\n";

    inFile.close();
}

void deleteStudent() {
    ifstream inFile("students.txt");
    ofstream tempFile("temp.txt");

    if (!inFile || !tempFile) {
        cout << "Error opening file!" << endl;
        return;
    }

    string rollNo;
    cout << "Enter Roll No to delete: ";
    cin >> rollNo;

    Student s;
    bool deleted = false;

    while (getline(inFile, s.rollNo, ',') &&
           getline(inFile, s.name, ',') &&
           getline(inFile, s.division, ',') &&
           getline(inFile, s.address)) {
        if (s.rollNo == rollNo) {
            deleted = true;

        } else {
            tempFile << s.rollNo << "," << s.name << "," << s.division << "," << s.address <<
endl;
        }
    }
}

```

```
}
```

```
inFile.close();
```

```
tempFile.close();
```

```
remove("students.txt");
```

```
rename("temp.txt", "students.txt");
```

```
if (deleted)
```

```
    cout << "Student record deleted successfully!\n";
```

```
else
```

```
    cout << "Student record not found!\n";
```

```
}
```

```
void menu() {
```

```
    int choice;
```

```
    do {
```

```
        cout << "\n--- Student Information System ---\n";
```

```
        cout << "1. Add Student\n";
```

```
        cout << "2. Display All Students\n";
```

```
        cout << "3. Search Student\n";
```

```
        cout << "4. Delete Student\n";
```

```
        cout << "5. Exit\n";
```

```
        cout << "Enter your choice: ";
```

```
        cin >> choice;
```

```
        switch (choice) {
```

```
            case 1: addStudent(); break;
```

```
            case 2: displayAllStudents(); break;
```

```
            case 3: searchStudent(); break;
```

```
        case 4: deleteStudent(); break;
        case 5: cout << "Exiting...\n"; break;
        default: cout << "Invalid choice! Try again.\n";
    }
} while (choice != 5);
}
```

```
int main() {
    menu();
    return 0;
}
```

Output:

--- Student Information System ---

1. Add Student
2. Display All Students
3. Search Student
4. Delete Student
5. Exit

Enter your choice: 1

Error opening file!

--- Student Information System ---

1. Add Student
2. Display All Students
3. Search Student
4. Delete Student
5. Exit

Enter your choice: 2

No records found!

--- Student Information System ---

1. Add Student
2. Display All Students
3. Search Student
4. Delete Student
5. Exit

Enter your choice: