

```
#include <iostream>

#include <fstream>

#include <string>

#include <sstream>

using namespace std;

struct Student {

    string rollNumber;

    string name;

    string division;

    string address;

};

void displayStudents(const string &filename) {

    ifstream file(filename);

    if (!file.is_open()) {

        cout << "No records found.\n";

        return;

    }

    string line;

    while (getline(file, line)) {

        stringstream ss(line);

        Student s1;

        getline(ss, s1.rollNumber, ',');

        getline(ss, s1.name, ',');

        getline(ss, s1.division, ',');

        getline(ss, s1.address, ',');

        cout << "Roll Number: " << s1.rollNumber << "\n";

        cout << "Name: " << s1.name << "\n";

        cout << "Division: " << s1.division << "\n";
```

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    cout << "Address: " << s1.address << "\n";
}
file.close();
}

void addStudent(const string &filename) {
    ofstream file(filename, ios::app);
    if (!file.is_open()) {
        cout << "Error opening file.\n";
        return;
    }
    Student s1;
    cout << "Enter roll number: ";
    cin >> s1.rollNumber;
    cin.ignore();
    cout << "Enter name: ";
    getline(cin, s1.name);
    cout << "Enter division: ";
    getline(cin, s1.division);
    cout << "Enter address: ";
    getline(cin, s1.address);

    file << s1.rollNumber << "," << s1.name << "," << s1.division << "," << s1.address << "\n";
    cout << "Student with roll number " << s1.rollNumber << " added successfully!\n";
    file.close();
}

void deleteStudent(const string &filename) {

```

```
string rollNumber;

cout << "Enter roll number to delete: ";

cin >> rollNumber;


ifstream file(filename);

if (!file.is_open()) {

    cout << "No records found.\n";

    return;

}


ofstream tempFile("temp.txt");

string line;

bool found = false;


while (getline(file, line)) {

    stringstream ss(line);

    string currentRollNumber;

    getline(ss, currentRollNumber, ',');


    if (currentRollNumber == rollNumber) {

        found = true;

        continue;

    }

    tempFile << line << "\n";

}


file.close();

tempFile.close();
```

```
if (found) {  
    remove(filename.c_str());  
    rename("temp.txt", filename.c_str());  
    cout << "Student with roll number " << rollNumber << " deleted successfully!\n";  
} else {  
    cout << "Student with roll number " << rollNumber << " not found.\n";  
}  
}
```

```
void displayStudent(const string &filename) {  
    string rollNumber;  
    cout << "Enter roll number to display: ";  
    cin >> rollNumber;  
  
    ifstream file(filename);  
    if (!file.is_open()) {  
        cout << "No records found.\n";  
        return;  
    }  
}
```

```
string line;
```

```
bool found = false;
```

```
while (getline(file, line)) {  
    stringstream ss(line);  
    Student s1;
```

```

getline(ss, s1.rollNumber, ',');
getline(ss, s1.name, ',');
getline(ss, s1.division, ',');
getline(ss, s1.address, ',');

if (s1.rollNumber == rollNumber) {
    found = true;
    cout << "Roll Number: " << s1.rollNumber << "\n";
    cout << "Name: " << s1.name << "\n";
    cout << "Division: " << s1.division << "\n";
    cout << "Address: " << s1.address << "\n";
    break;
}
}

if (!found) {
    cout << "Student with roll number " << rollNumber << " not found.\n";
}

file.close();
}

int main() {
    string fileName = "student.txt";

    while (true) {
        cout << "\n Student Information System \n";
        cout << "1. Add student\n";
        cout << "2. Delete student\n";
    }
}

```

```
    cout << "3. Display all students\n";  
    cout << "4. Display particular student\n";  
    cout << "5. Exit\n";  
    cout << "Enter your choice: ";  
  
    int choice;  
  
    cin >> choice;  
  
    switch (choice) {  
    case 1:  
        addStudent(fileName);  
        break;  
    case 2:  
        deleteStudent(fileName);  
        break;  
    case 3:  
        displayStudents(fileName);  
        break;  
    case 4:  
        displayStudent(fileName);  
        break;  
    case 5:  
        cout << "Exiting system...\n";  
        return 0;  
    default:  
        cout << "Invalid choice! Please try again.\n";  
    }  
}  
  
return 0;  
}
```