



CP Assignment 02

Name:	Syed Muhammad Raza Ali
Enrolment:	02-134231-028
Course:	CP
Faculty:	Miss Azeema Sadia

Assignment NO. 02

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Marks 05

Question

CLO3, PLO4, BTL 3

The university wants you to develop a system to maintain student's registration in different sports such as cricket, football or hockey. The system allows each students to register only for single team, it means students are not allowed to register for two different games. Although a student can switch his registration from one sport to another. For instance a student A was previously registered in cricket team but now he want to register for football team, in this case his registration will be updated from cricket player to football player.

Following students are not eligible to register for sports

- Students above 25 years
- Students who are also working as teaching assistant (TA)

You system admin should be able to perform following tasks

- Register students by his/ her registration ID
- Register student to a sport
- View particular students record by using his/ her ID as each student have unique ID
- View all records each record has two values student's ID and student's sport name
- Update any sport of a particular student
- Delete any record at any time
- Search for specific student by his her ID and display its registered sport name

Code:

```
#include <iostream>
#include <cstdlib>
using namespace std;

int main() {
    char choice, option, teachingAssistant, sportsCode;
    string studentName[5], sportsName[5], searchName, sportsFound,
    changeSport, delStudent, searchStudent;
    int i = 0 ;
    int studentAge,x,y,z, studentId[5];
    bool flag1, flag3 = false;

    do {

        cout << "Press 1 to register a student " << endl
        << "Press 2 to view a specific student's record" << endl
        << "Press 3 to view all students records" << endl
        << "Press 4 to change the sport of a student" << endl
        << "Press 5 to delete the record of a student" << endl
        << "Press 6 to search for a student" << endl;
        cin >> choice;

        if (choice == '1') {
            cout << "----- Register for a sport -----"
            << endl;

            cout << "Enter your age" << endl;
            cin >> studentAge;

            cout << "Are you working as a Teaching assistant?" << endl
            << "Press 'y' for yes and press 'n' for no" << endl;

            cin >> teachingAssistant;
            if (teachingAssistant == 'n' && studentAge >= 18) {
                cout << "Age requirement met :)" << endl;
                cout << "Enter the name of the student" << endl;
                cin >> studentName[i];
                cout << "Enter the sports you want to register for" << endl
                << "Press 'c' for cricket" << endl << "Press 'f' for football" << endl
                << "Press 'h' for hockey" << endl;
                cin >> sportsCode;
                if (sportsCode == 'c') {
                    sportsName[i] = "Crickcet";
                    x = rand() % 100 + 1;
                    studentId[i] = x;
                }
            }
            else if (sportsCode == 'f') {
```

```

sportsName[i] = "Football";
y = rand() % 100 + 1;;
studentId[i] = y;
}
else if (sportsCode == 'h') {
sportsName[i] = "Hockey";
z = rand() % 100 + 1;;
studentId[i] = z;
}
else {
cout << "Invalid choice!!" << endl;
}
i = i + 1;

}
else {
cout << "You are not eligible for sports registration :(" << endl;
}
}

else if (choice == '2') {
cout << "----- Student's Record -----"
<< endl;
cout << "Enter the name of the student " << endl;
cin >> searchName;

for (int j = 0; j < 5; j++) {
if (searchName == studentName[j]) {
flag1 = true;
cout << "Student Name : " << searchName << endl;
cout << "Student ID : " << studentId[j] << endl;
cout << "Sports : " << sportsName[j] << endl;
break;
}
}
if (flag1 == false) {
cout << "No record found :(" << endl;

}
}

else if (choice == '3') {
cout << "----- Student's Record -----"
<< endl;
for (int j = 0; j < 5; j++) {
cout << "Student name : " << studentName[j] << "Student ID: "
<< studentId[j] << "Sports : " << sportsName[j] << endl;
}
}
}

```

```

else if (choice == '4') {
    bool flag2 = false;
    cout << "----- Change Student's Sport -----
    -----" << endl;
    cout << "Enter the student name whose sport you want to change" << endl;
    cin >> changeSport;
    for (int j = 0; j < 5; j++) {
        if (changeSport == studentName[j]) {
            cout << changeSport << " found! Enter the new sport of this student " <<
            endl
            << "Press 'c' for cricket" << endl << "Press 'f' for football" << endl
            << "Press 'h' for hockey" << endl;
            cin >> sportsCode;
            if (sportsCode == 'c') {
                sportsName[j] = "Cricket";
            }
            else if (sportsCode == 'f') {
                sportsName[j] = "Football";
            }
            else if (sportsCode == 'h') {
                sportsName[j] = "Hockey";
            }
            else {
                cout << "Invalid choice!!" << endl;
            }
            flag2 = true;
        }
    }
    break;
}
if (flag2 == true) {
    cout << "Sport updated succesfully :) " << endl;
}
else if (flag2 == false) {
    cout << "Student not found :/" << endl;
}
}

else if (choice == '5') {
    cout << "Enter the name of the student you want to delete" << endl;
    cin >> delStudent;
    for (int j = 0; j < 5; j++) {
        if (studentName[j] == delStudent) {
            flag3 = true;
            for (int k = j; k < 5 - 1; k++) {
                studentName[k] = studentName[k + 1];
                studentName[k + 1] = " ";
                studentId[k] = studentId[k + 1];
                studentId[k + 1] = NULL;
                sportsName[k] = sportsName[k + 1];
            }
        }
    }
}

```

```

sportsName[k + 1] = " ";
}
}
}
if (flag3 == true) {
cout << "Student record deleted successfully" << endl;
}
else {
cout << "Student doesn't exist" << endl;
}
}
else if (choice == '6') {
cout << "Enter the name of the student you want to search" << endl;
cin >> searchStudent;
for (int j = 0; j < 5; j++) {
if (searchStudent == studentName[j]) {
cout << "Student Found " << endl
<< "Name: " << studentName[j] << endl
<< "Student ID: " << studentId[j] << endl
<< "Sports: " << sportsName[j] << endl;
}
else {
cout << "Student doesn't exist" << endl;
}
}
}

cout << "Press 'y' if you want to continue or any other key to cancel"
<< endl;
cin >> option;
} while (option == 'y');

return 0;
}

```

Output:

Option 1: Registering students

```
C:\Users\lenovo\OneDrive\Desktop\Assignment 7\x64\Debug\Assignment 7.exe
Press 1 to register a student
Press 2 to view a specific student's record
Press 3 to view all students records
Press 4 to change the sport of a student
Press 5 to delete the record of a student
Press 6 to search for a student
1
----- Register for a sport -----
Enter your age
19
Are you working as a Teaching assistant?
Press 'y' for yes and press 'n' for no
n
Age requirement met :)
Enter the name of the student
raza
Enter the sports you want to register for
Press 'c' for cricket
Press 'f' for football
Press 'h' for hockey
f
Press 'y' if you want to continue or any other key to cancel
y
Press 1 to register a student
Press 2 to view a specific student's record
Press 3 to view all students records
Press 4 to change the sport of a student
Press 5 to delete the record of a student
Press 6 to search for a student
```

```
1
----- Register for a sport -----
Enter your age
20
Are you working as a Teaching assistant?
Press 'y' for yes and press 'n' for no
n
Age requirement met :)
Enter the name of the student
ali
Enter the sports you want to register for
Press 'c' for cricket
Press 'f' for football
Press 'h' for hockey
h
Press 'y' if you want to continue or any other key to cancel
y
Press 1 to register a student
Press 2 to view a specific student's record
Press 3 to view all students records
Press 4 to change the sport of a student
Press 5 to delete the record of a student
Press 6 to search for a student
1
----- Register for a sport -----
Enter your age
20
Are you working as a Teaching assistant?
```

```
Press 'y' for yes and press 'n' for no
n
Age requirement met :)
Enter the name of the student
hamza
Enter the sports you want to register for
Press 'c' for cricket
Press 'f' for football
Press 'h' for hockey
c
Press 'y' if you want to continue or any other key to cancel
y
Press 1 to register a student
Press 2 to view a specific student's record
Press 3 to view all students records
Press 4 to change the sport of a student
Press 5 to delete the record of a student
Press 6 to search for a student
1
----- Register for a sport -----
Enter your age
18
Are you working as a Teaching assistant?
Press 'y' for yes and press 'n' for no
n
Age requirement met :)
Enter the name of the student
rashid
Enter the sports you want to register for
Press 'c' for cricket
```

```
Press 'f' for football
Press 'h' for hockey
h
Press 'y' if you want to continue or any other key to cancel
y
Press 1 to register a student
Press 2 to view a specific student's record
Press 3 to view all students records
Press 4 to change the sport of a student
Press 5 to delete the record of a student
Press 6 to search for a student
1
----- Register for a sport -----
Enter your age
23
Are you working as a Teaching assistant?
Press 'y' for yes and press 'n' for no
n
Age requirement met :)
Enter the name of the student
maaz
Enter the sports you want to register for
Press 'c' for cricket
Press 'f' for football
Press 'h' for hockey
f
Press 'y' if you want to continue or any other key to cancel
y
Press 1 to register a student
Press 2 to view a specific student's record
```


Option 2 and 3: individual and all Students records

```
Press 3 to view all students records
Press 4 to change the sport of a student
Press 5 to delete the record of a student
Press 6 to search for a student
2
----- Student's Record -----
Enter the name of the student
raza
Student Name : raza
Student ID : 42
Sports : Football
Press 'y' if you want to continue or any other key to cancel
y
Press 1 to register a student
Press 2 to view a specific student's record
Press 3 to view all students records
Press 4 to change the sport of a student
Press 5 to delete the record of a student
Press 6 to search for a student
3
----- Student's Record -----
Student name : razaStudent ID:      42      Sports : Football
Student name : aliStudent ID:      68      Sports : Hockey
Student name : hamzaStudent ID:     35      Sports : Crickcet
Student name : rashidStudent ID:     1      Sports : Hockey
Student name : maazStudent ID:     70      Sports : Football
Press 'y' if you want to continue or any other key to cancel
y
Press 1 to register a student
Press 2 to view a specific student's record
```

Option 4 and 5: Changing a student's sports and deleting a student's data

```
Press 1 to register a student
Press 2 to view a specific student's record
Press 3 to view all students records
Press 4 to change the sport of a student
Press 5 to delete the record of a student
Press 6 to search for a student
4
----- Change Student's Sport -----
Enter the student name whose sport you want to change
raza
raza found! Enter the new sport of this student
Press 'c' for cricket
Press 'f' for football
Press 'h' for hockey
h
Sport updated succesfully :)
Press 'y' if you want to continue or any other key to cancel
y
Press 1 to register a student
Press 2 to view a specific student's record
Press 3 to view all students records
Press 4 to change the sport of a student
Press 5 to delete the record of a student
Press 6 to search for a student
5
Enter the name of the student you want to delete
rashid
Student record deleted successfully
Press 'y' if you want to continue or any other key to cancel
y
```

Option 6: Searching a student's data

```
y
Press 1 to register a student
Press 2 to view a specific student's record
Press 3 to view all students records
Press 4 to change the sport of a student
Press 5 to delete the record of a student
Press 6 to search for a student
6
Enter the name of the student you want to search
hamza
Student doesn't exist
Student doesn't exist
Student Found
Name: hamza
Student ID: 35
Sports: Crickcet
Student doesn't exist
Student doesn't exist
Press 'y' if you want to continue or any other key to cancel
```