

```

1  #include<iostream>
2  #include<fstream>
3  #include<string.h>
4  using namespace std;
5
6  class student {
7      typedef struct stud {
8          int roll;
9          char name[10];
10         char div;
11         char add[10];
12     } stud;
13
14     stud rec;
15
16 public:
17     void create();
18     void display();
19     int search();
20     void Delete();
21 };
22
23 void student::create() {
24     char ans;
25     ofstream fout;
26     fout.open("stud.dat", ios::out | ios::binary);
27     do {
28         cout << "\n-----";
29         cout << "\n\tEnter Roll No of Student    : ";
30         cin >> rec.roll;
31         cout << "\tEnter Name of Student          : ";
32         cin >> rec.name;
33         cout << "\tEnter Division of Student      : ";
34         cin >> rec.div;
35         cout << "\tEnter Address of Student       : ";
36         cin >> rec.add;
37
38         fout.write((char*)&rec, sizeof(stud)) << flush;
39
40         cout << "\n-----";
41         cout << "\n\tDo You Want to Add More Records (y/n)? : ";
42         cin >> ans;
43     } while (ans == 'y' || ans == 'Y');
44
45     fout.close();
46     cout << "\n\n\tRecords Added Successfully!\n";
47 }
48
49 void student::display() {
50     ifstream fin;
51     fin.open("stud.dat", ios::in | ios::binary);
52     fin.seekg(0, ios::beg);
53
54     cout << "\n===== ";
55     cout << "\n\t\tStudent Records";

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56     cout << "\n-----";
57     cout << "\n\tRoll\tName\tDivision\tAddress";
58     cout << "\n-----";
59
60     while (fin.read((char*)&rec, sizeof(stud))) {
61         if (rec.roll != -1) {
62             cout << "\n\t" << rec.roll
63                 << "\t" << rec.name
64                 << "\t" << rec.div
65                 << "\t\t" << rec.add;
66         }
67     }
68     cout << "\n-----";
69     fin.close();
70 }
71
72 int student::search() {
73     int r, i = 0;
74     ifstream fin;
75     fin.open("stud.dat", ios::in | ios::binary);
76     fin.seekg(0, ios::beg);
77
78     cout << "\n-----";
79     cout << "\n\tEnter Roll No to Search: ";
80     cin >> r;
81
82     while (fin.read((char*)&rec, sizeof(stud))) {
83         if (rec.roll == r) {
84             cout << "\n\n\tRecord Found!";
85             cout << "\n-----";
86             cout << "\n\tRoll\tName\tDivision\tAddress";
87             cout << "\n-----";
88             cout << "\n\t" << rec.roll
89                 << "\t" << rec.name
90                 << "\t" << rec.div
91                 << "\t\t" << rec.add;
92             cout << "\n-----";
93             fin.close();
94             return i;
95         }
96         i++;
97     }
98     fin.close();
99     cout << "\n\n\tRecord Not Found!";
100    return 0;
101 }
102
103 void student::Delete() {
104     int pos;
105     pos = search();
106     fstream f;
107     f.open("stud.dat", ios::in | ios::out | ios::binary);
108     f.seekg(0, ios::beg);
109
110     if (pos == 0) {
111         cout << "\n\tRecord Not Found!";
112         f.close();

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113         return;
114     }
115
116     int offset = pos * sizeof(stud);
117     f.seekp(offset);
118
119     rec.roll = -1;
120     strcpy(rec.name, "NULL");
121     rec.div = 'N';
122     strcpy(rec.add, "NULL");
123
124     f.write((char*)&rec, sizeof(stud));
125     f.seekg(0);
126     f.close();
127     cout << "\n\n\tRecord Deleted Successfully!";
128 }
129
130 int main() {
131     student obj;
132     int ch, key;
133     char ans;
134
135     do {
136         cout << "\n\n===== ";
137         cout << "\n\tStudent Information System";
138         cout << "\n===== ";
139         cout << "\n\t1. Create Record";
140         cout << "\n\t2. Display Records";
141         cout << "\n\t3. Delete Record";
142         cout << "\n\t4. Search Record";
143         cout << "\n\t5. Exit";
144         cout << "\n===== ";
145         cout << "\n\n\tEnter Your Choice: ";
146         cin >> ch;
147
148         switch (ch) {
149             case 1:
150                 obj.create();
151                 break;
152             case 2:
153                 obj.display();
154                 break;
155             case 3:
156                 obj.Delete();
157                 break;
158             case 4:
159                 key = obj.search();
160                 break;
161             case 5:
162                 cout << "\n\n\tExiting... Goodbye!";
163                 break;
164             default:
165                 cout << "\n\tInvalid Choice! Please Try Again.";
166         }
167     }
168
169     if (ch != 5) {
170         cout << "\n\n\tDo You Want to Continue? (y/n): ";

```

```

170         cin >> ans;
171     } else {
172         ans = 'n';
173     }
174 } while (ans == 'y' || ans == 'Y');
175
176 return 0;
177 }
178

```

Output :

```

D:\SE Computer\LAB CODES\DSA\DSA11.exe

=====
Student Information System
=====
1. Create Record
2. Display Records
3. Delete Record
4. Search Record
5. Exit
=====

Enter Your Choice: 1

-----
Enter Roll No of Student : 49
Enter Name of Student : Shiv
Enter Division of Student : C
Enter Address of Student : Wagholi
-----

Do You Want to Add More Records (y/n)? : y

-----
Enter Roll No of Student : 57
Enter Name of Student : Pravin
Enter Division of Student : C
Enter Address of Student : Wagholi
-----

Do You Want to Add More Records (y/n)? : y

-----
Enter Roll No of Student : 54
Enter Name of Student : Mangesh
Enter Division of Student : C
Enter Address of Student : Mundwa
-----

Do You Want to Add More Records (y/n)? : n

Records Added Successfully!

Do You Want to Continue? (y/n): y

=====
Student Information System
=====

```

```
D:\SE Computer\LAB CODES\DSA\DSA11.exe
Student Information System
=====
1. Create Record
2. Display Records
3. Delete Record
4. Search Record
5. Exit
=====

Enter Your Choice: 2

=====
Student Records
=====
-----
Roll    Name    Division    Address
-----
49      Shiv    C           Wagholi
57      Pravin  C           Wagholi
54      Mangesh C           Mundwa
-----

Do You Want to Continue? (y/n): y

=====
Student Information System
=====
1. Create Record
2. Display Records
3. Delete Record
4. Search Record
5. Exit
=====

Enter Your Choice: 3

-----
Enter Roll No to Search: 54

Record Found!
-----
Roll    Name    Division    Address
-----
54      Mangesh C           Mundwa
-----

Record Deleted Successfully!

Do You Want to Continue? (y/n): y
```

```
D:\SE Computer\LAB CODES\DSA\DSA11.exe

=====
Student Information System
=====
1. Create Record
2. Display Records
3. Delete Record
4. Search Record
5. Exit
=====

Enter Your Choice: 4

-----
Enter Roll No to Search: 54

Record Not Found!

Do You Want to Continue? (y/n): y

=====
Student Information System
=====
1. Create Record
2. Display Records
3. Delete Record
4. Search Record
5. Exit
=====

Enter Your Choice: 2

-----
Student Records
-----
Roll    Name    Division    Address
-----
49      Shiv    C           Wagholi
57      Pravin  C           Wagholi
-----

Do You Want to Continue? (y/n): y

=====
Student Information System
=====
1. Create Record
```

```
D:\SE Computer\LAB CODES\DSA\DSA11.exe

=====
Student Information System
=====
1. Create Record
2. Display Records
3. Delete Record
4. Search Record
5. Exit
=====

Enter Your Choice: 5

Exiting... Goodbye!
-----
Process exited after 102.3 seconds with return value 0
Press any key to continue . . .
```