

CLA4 project

Topic: Structures and File Concepts

Project: Student record management
program

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Batch: P2

Program description:

Add, display, search, and delete a student record.

CODE

```
C main.c > ...
1  #include <stdio.h>
2  #include <stdlib.h>
3  #include <conio.h>
4  #include <ctype.h>
5
6  // Structure for student record
7  struct student
8  {
9      char Name[100];
10     int roll_no;
11     char course[100];
12     float percentage;
13 } info;
14
15 char fileName[20] = "records.txt";
16 // prototypes
17 void addStudent(); // add student
18 void displayRecord(); // display student record
19 void searchStudent(); // search student by roll no
20 void deleteRecord(); // delete a student record
21
22 void main()
23 {
24     printf("\nMade by:\n\tSOHAM DATTA RA2111031010089\n\tB.Tech CSE(IT) P2\n");
25     int choice;
26     while (choice != 5)
27     {
28         printf("\n-----STUDENT RECORD MANAGEMENT-----\n");
29         printf("\n1. Add Student");
30         printf("\n2. Display Student Record");
31         printf("\n3. Search by roll number");
32         printf("\n4. Delete Student Record");
33         printf("\n5. Exit the program\n");
34         printf("\nEnter choice: ");
35         scanf("%d", &choice);
36     }
```

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37         switch (choice)
38         {
39             case 1:
40                 addStudent();
41                 break;
42             case 2:
43                 displayRecord();
44                 break;
45             case 3:
46                 searchStudent();
47                 break;
48             case 4:
49                 deleteRecord();
50                 break;
51             case 5:
52                 printf("\nExiting the program...\n");
53                 break;
54             default:
55                 printf("\nEnter a valid choice(1-5)");
56                 break;
57         }
58     }
59 }
60 // add a student record
61 void addStudent()
62 {
63     char more;
64     FILE *fp;
65     do
66     {
67         printf("\nAdd a student record by giving the below details:\n");
68         fp = fopen(fileName, "a");
69         printf("\nEnter name: ");
70         scanf("%s", &info.Name);
71         printf("Enter roll no.: ");
72         scanf("%d", &info.roll_no);

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73     printf("Enter course: ");
74     scanf("%s", &info.course);
75     printf("Enter percentage: ");
76     scanf("%f", &info.percentage);
77     if (fp == NULL)
78     {
79         printf("Error, couldn't open file\n");
80     }
81     else
82     {
83         printf("Student added to record.\n\n");
84     }
85
86     // write data to file
87     fprintf(fp, "%s %d %s %f\n", info.Name, info.roll_no, info.course, info.percentage);
88     fclose(fp);
89     printf("Do you want to add another student? (y/n): ");
90     scanf("%s", &more);
91     } while (tolower(more) == 'y');
92 }
93
94 // display current records
95 void displayRecord()
96 {
97     FILE *fp;
98     fp = fopen(fileName, "r");
99     if (fp == NULL)
100     {
101         fprintf(stderr, "can't open file\n");
102         exit(0);
103     }
104     else
105     {
106         printf("\nCurrent Records\n");
107         printf("-----\n");
108     }

```

```

109 // read data from file
110 while (fscanf(fp, "%s %d %s %f\n", &info.Name, &info.roll_no, &info.course, &info.percentage) != EOF)
111 {
112     printf("\nStudent Name: %s\n", info.Name);
113     printf("Roll no.: %d\n", info.roll_no);
114     printf("Course: %s\n", info.course);
115     printf("Percentage: %.2f %% \n", info.percentage);
116     printf("-----\n");
117 }
118 printf("-----\n");
119 fclose(fp);
120 }
121 // search a student by roll no
122 void searchStudent()
123 {
124
125     FILE *fp;
126     int roll_no, found = 0;
127     fp = fopen(fileName, "r");
128     printf("Enter the roll no : ");
129     scanf("%d", &roll_no);
130 while (fscanf(fp, "%s %d %s %f\n", &info.Name, &info.roll_no, &info.course, &info.percentage) != EOF)
131 {
132     if (info.roll_no == roll_no)
133     {
134         printf("\nStudent name: %s\n", info.Name);
135         printf("Roll no.: %d\n", info.roll_no);
136         printf("Course: %s\n", info.course);
137         printf("Percentage: %.2f %% \n\n", info.percentage);
138         found = 1;
139     }
140 }
141
142 if (!found)
143 {
144     printf("\nRoll number not found\n");

```

```

145     }
146     fclose(fp);
147 }
148 // delete a student record
149 void deleteRecord()
150 {
151     FILE *fp, *fp_temp;
152     int roll_no, found = 0;
153     fp = fopen(fileName, "r");
154     fp_temp = fopen("temp.txt", "w");
155     printf("Enter the roll no : ");
156     scanf("%d", &roll_no);
157     while (fscanf(fp, "%s %d %s %f\n", &info.Name, &info.roll_no, &info.course, &info.percentage) != EOF)
158     {
159         if (info.roll_no != roll_no)
160         {
161             fprintf(fp_temp, "%s %d %s %f\n", info.Name, info.roll_no, info.course, info.percentage);
162         }
163         else
164         {
165             found = 1;
166         }
167     }
168     if (!found)
169     {
170         printf("\nRoll number not found\n");
171     }
172     else
173     {
174         printf("\n%d deleted.\n", roll_no);
175     }
176     fclose(fp);
177     fclose(fp_temp);
178     remove(fileName);
179     rename("temp.txt", fileName);
180 }

```

OUTPUT

```
Made by:
    SOHAM DATTA RA2111031010089
    B.Tech CSE(IT) P2

-----STUDENT RECORD MANAGEMENT-----

1. Add Student
2. Display Student Record
3. Search by roll number
4. Delete Student Record
5. Exit the program

Enter choice: 1

Add a student record by giving the below details:

Enter name: soham
Enter roll no.: 89
Enter course: cs
Enter percentage: 97
Student added to record.

Do you want to add another student? (y/n): y

Add a student record by giving the below details:

Enter name: samveg
Enter roll no.: 54
Enter course: economics
Enter percentage: 100
Student added to record.

Do you want to add another student? (y/n): n

-----STUDENT RECORD MANAGEMENT-----

1. Add Student
2. Display Student Record
3. Search by roll number
4. Delete Student Record
5. Exit the program

Enter choice: 2

Current Records
```

Current Records

Student Name: soham

Roll no.: 89

Course: cs

Percentage: 97.00 %

Student Name: samveg

Roll no.: 54

Course: economics

Percentage: 100.00 %

-----STUDENT RECORD MANAGEMENT-----

1. Add Student
2. Display Student Record
3. Search by roll number
4. Delete Student Record
5. Exit the program

Enter choice: 3

Enter the roll no : 89

Student name: soham

Roll no.: 89

Course: cs

Percentage: 97.00 %

-----STUDENT RECORD MANAGEMENT-----

1. Add Student
2. Display Student Record
3. Search by roll number
4. Delete Student Record
5. Exit the program

Enter choice: 4

Enter the roll no : 54

54 deleted.

54 deleted.

-----STUDENT RECORD MANAGEMENT-----

1. Add Student
2. Display Student Record
3. Search by roll number
4. Delete Student Record
5. Exit the program

Enter choice: 2

Current Records

Student Name: soham

Roll no.: 89

Course: cs

Percentage: 97.00 %

-----STUDENT RECORD MANAGEMENT-----

1. Add Student
2. Display Student Record
3. Search by roll number
4. Delete Student Record
5. Exit the program

Enter choice: 5

exiting the program...