

MINI PROJECT

Title: Student Attendance Calculator

As a Field work for Course

Computer Programming (CSE 101)

By

| Sr. No. | Registration No. | Name of Students | Roll No | Total Marks | Marks Obtained | Signature |
|---------|------------------|------------------|-----------|-------------|----------------|-----------|
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Thank you for your valuable input and support.

ABOUT PROJECT

TITLE:

Student Attendance Calculator Project in C Programming.

Description:

The Student Attendance Calculator is a C programming project that helps to track and calculate student attendance for a particular class. It allows the user to enter student information such as name, roll number, and class and mark the attendance for each student. The project also allows the user to view the attendance records of a particular student or the entire class for a particular day or a range of days.

Purpose:

The purpose of this project is to provide a user-friendly interface to track and manage student attendance. The project will help teachers to keep track of the attendance records of their students, which will enable them to make better decisions regarding the academic performance of their students.

Main Features:

1. User interface to add student information, mark attendance, and view attendance records
2. Data storage using arrays to store the student data and attendance records.
3. Functionality to mark the attendance of students.
4. Functionality to view attendance records of a particular student or the entire class.
5. Option to calculate the percentage of attendance for a student or the entire class.
6. Error handling mechanisms to handle unexpected user inputs and other possible errors.

MODULE EXPLANATION

Login module: -

This login module uses a while loop to allow the user three attempts to enter a valid username and password combination. The program prompts the user to enter their username and password and compares them to a predefined username and password. If the login is successful, the program prints a message indicating that the login was successful. If the login fails, the program prints an error message and increments the login Attempt variable. If the user exceeds the maximum number of login attempts, the program exits.

Insert module: -

We define a structure called student that contains the name, ID, and age of a student. We also define an array of student structures called students, which has a maximum capacity of MAX_STUDENTS. We also define a variable num_students to keep track of the number of students currently in the students array.

Display module: -

The display_all_students function iterates over the student's array and prints the name, ID, and age of each student to the console.

In the main function, we add some test data to the students array and then call the display_all_students function to display all the students.

Search module: -

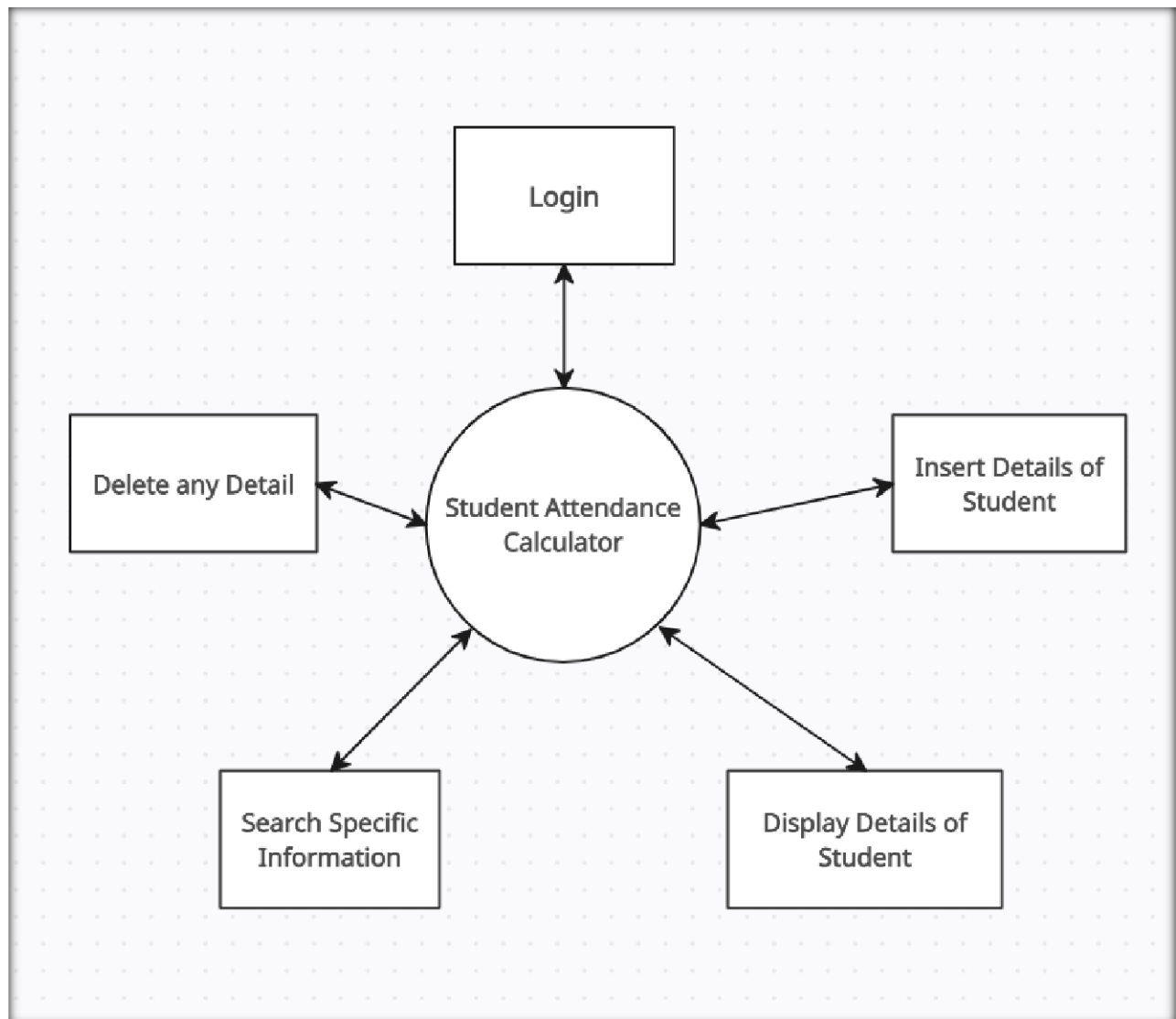
In this program, we define a search Info function that takes in a two-dimensional character array representing some data, the number of entries in the array, and a search string as parameters. The function searches the data for any entry containing the search string and returns the index of the first matching entry, or -1 if no match is found. We then call this function from the main function to search for a specific name in the data array and display the matching record if found.

Delete/ modify module: -

In this program, the delete Or Modify function takes in the array, its size, the index of the element to delete/modify, and a choice variable that indicates whether to delete or modify the element. The function checks if the index is valid and then performs the appropriate action based on the choice variable.

DFD (DATA FLOW DIAGRAM)

LEVEL 0



SOURCE CODE

```
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
Project Classes Debug attendance1.c

1 #include <stdio.h>
2 #include <string.h>
3 struct Authentication
4 {
5     char email[50];
6     char password[50];
7 } myauth[100];
8
9 struct Student
10 {
11     char name[50];
12     char email[50];
13     int regno;
14     int overallattendpercent;
15     int totalsubject;
16     struct subject
17     {
18         char Subject[50];
19         int totalclass;
20         int attendclass;
21         float attendpercent;
22     } sub[10];
23
24 } stu[100];
25
26 void auth()
27 {
28     FILE *ptr;
```

```
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
Project Classes Debug attendance1.c

32 ptr = fopen("file/myauthentication.txt", "a");
33 printf("Enter the email : ");
34 scanf("%s", myauth[0].email);
35 printf("Enter the password : ");
36 scanf("%s", myauth[0].password);
37 char cpass[50];
38 printf("Confirm the password : ");
39 scanf("%s", cpass);
40 if (strcmp(myauth[0].password, cpass) == 0)
41 {
42     printf("Password matched \n");
43     fwrite(&myauth[0], sizeof(myauth[0]), 1, ptr);
44     printf("Registration is done \n");
45 }
46 else
47 {
48     printf("Password not matched \n");
49 }
50 fclose(ptr);
51
52 }
53
54
55 void insert(){
56     FILE *ptr, *ptr1;
57     ptr = fopen("file/myauthentication.txt", "r");
58     char email[50];
59     char password[50];
60     printf("Enter the email : ");
61     scanf("%s", email);
62     printf("Enter the password : ");
```

```

63 scanf("%s", password);
64 int i=0;
65 while (fread(&myauth[i], sizeof(myauth[i]), 1, ptr) == 1)
66 {
67     if (strcmp(myauth[i].email, email) == 0 && strcmp(myauth[i].password, password) == 0)
68     {
69         printf("Login successful \n");
70         printf("Enter the name of the student : ");
71         scanf("%s", stu[i].name);
72         strcpy(stu[i].email, email);
73         printf("Enter the registration number of the student : ");
74         scanf("%d", &stu[i].regno);
75         int n;
76         printf("Enter the number of subjects : ");
77         scanf("%d", &n);
78         stu[i].totalsubject=n;
79         int j;
80         for ( j = 0; j < n; j++)
81         {
82             printf("Enter the name of the subject : ");
83             scanf("%s", stu[i].sub[j].Subject);
84             printf("Enter the total number of classes : ");
85             scanf("%d", &stu[i].sub[j].totalclass);
86             printf("Enter the number of classes attended : ");
87             scanf("%d", &stu[i].sub[j].attendclass);
88             stu[i].sub[j].attendpercent = (stu[i].sub[j].attendclass * 100) / stu[i].sub[j].totalclass;
89         }
90
91         int s=0;
92         int k;
93         for ( k = 0; k < n; k++)
94         {
95             s = s + stu[i].sub[k].attendpercent;
96         }
97         stu[i].overallattendpercent = s / n;
98         ptr1 = fopen("file/attendance/mystudent.txt", "a");
99         fwrite(&stu[i], sizeof(stu[i]), 1, ptr1);
100
101
102         printf("Student details added successfully \n");
103         break;
104     }
105     else(
106         printf("Wrong credentials \n");
107     )
108 }
109 fclose(ptr);
110 fclose(ptr1);
111 }
112
113 void display(){
114     FILE *ptr;
115     ptr = fopen("file/attendance/mystudent.txt", "r");
116     int i=0;
117     while (fread(&stu[i], sizeof(stu[i]), 1, ptr) == 1)
118     {

```

The screenshot shows a C program in a code editor. The interface includes a menu bar (File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, Help), a toolbar, and a status bar (TDM-GCC 4.9.2 64-bit Release). The project is named 'attendance1.c'. The code is as follows:

```

124 {
125     printf("Name : %s \n", stu[i].name);
126     printf("Email : %s \n", stu[i].email);
127     printf("Registration number : %d \n", stu[i].regno);
128     printf("Total Subjects are : %d \n", stu[i].totalsubject);
129     printf("Overall attendance percentage : %d \n", stu[i].overallattendpercent);
130     printf("Subject \t Total classes \t Attended classes \t Attendance percentage \n");
131     int j;
132     for ( j = 0; j < stu[i].totalsubject; j++)
133     {
134         printf("%s \t %d \t %d \t %.2f \n", stu[i].sub[j].Subject, stu[i].sub[j].totalclass, stu[i].sub[j].attendclass, stu[i].sub[j].attendpercent);
135     }
136     i++;
137 }
138 fclose(ptr);
139 }
140
141 void search(){
142     FILE *ptr;
143     ptr = fopen("file/attendance/mystudent.txt", "r");
144     int i=0;
145     int reg;
146     printf("Enter the registration number of the student : ");
147     scanf("%d", &reg);
148     while (fread(&stu[i], sizeof(stu[i]), 1, ptr) == 1)
149     {
150         if (stu[i].regno == reg)
151         {
152             printf("1-->Overall attendance percentage \n");
153             printf("2-->Subject wise attendance percentage \n");
154             int ch;

```



```
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
Project Classes Debug attendance.c
154 int ch;
155 printf("Enter your choice : ");
156 scanf("%d", &ch);
157 switch (ch)
158 {
159 case 1:
160     printf("Overall attendance percentage : %d \n", stu[i].overallattendpercent);
161     break;
162 case 2:
163     printf("Subject \t Total classes \t Attended classes \t Attendance percentage \n");
164     int j;
165     for ( j = 0; j < stu[i].totalsubject; j++)
166     {
167         printf("%s \t %d \t %d \t %.2f \n", stu[i].sub[j].Subject, stu[i].sub[j].totalclass, stu[i].sub[j].attendclass, stu[i].sub[j].attendancepercentage);
168     }
169     break;
170 default:
171     printf("Invalid choice \n");
172     break;
173 }
174 break;
175 }
176 i++;
177 }
178 fclose(ptr);
179
180
181
182
183 void delete(){
184     FILE *ptr, *ptr1;
```

```
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
Project Classes Debug attendance.c
184 FILE *ptr, *ptr1;
185 ptr = fopen("file/attendance/mystudent.txt", "r");
186 int i=0;
187 int reg;
188 char ch;
189 printf("Enter the registration number of the student : ");
190 scanf("%d", &reg);
191 ptr1 = fopen("file/attendance/mytemp.txt", "w");
192 while (fread(&stu[i], sizeof(stu[i]), 1, ptr) == 1)
193 {
194     if (stu[i].regno == reg)
195     {
196         printf("Are you sure you want to delete the details of %s (y/n) : ", stu[i].name);
197
198         scanf(" %c", &ch);
199         if (ch == 'y')
200         {
201             printf("Details deleted \n");
202
203
204
205         }
206         else
207         {
208             printf("Details not deleted \n");
209         }
210         break;
211     }
212     else{
213         fwrite(&stu[i], sizeof(stu[i]), 1, ptr1);
214     }
215 }
```

```
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
Project Classes Debug attendance.c
215 i++;
216 }
217 fclose(ptr1);
218 fclose(ptr);
219 if (ch=='y'){
220     ptr=fopen("file/attendance/mystudent.txt", "w");
221     ptr1=fopen("file/attendance/mytemp.txt", "r");
222     while (fread(&stu[i], sizeof(stu[i]), 1, ptr1) == 1)
223     {
224         fwrite(&stu[i], sizeof(stu[i]), 1, ptr);
225     }
226     fclose(ptr1);
227     fclose(ptr1);
228     remove("file/attendance/mytemp.txt");
229 }
230 else{
231     remove("file/attendance/mytemp.txt");
232 }
233 }
234 void displayauth(){
235     printf("Auth Data \n");
236     FILE *ptr;
237     ptr = fopen("file/myauthentication.txt", "r");
238     int i=0;
239     while (fread(&myauth[i], sizeof(myauth[i]), 1, ptr) == 1)
240     {
241         printf("Username : %s \n", myauth[i].email);
242         printf("Password : %s \n", myauth[i].password);
243         i++;
244     }
245     fclose(ptr);
```

```
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
Project Classes Debug attendance1.c

246 }
247 int main()
248 {
249     int ch;
250     do
251     {
252         printf("1--> Login/ Authentication \n");
253         printf("2--> Insert details of student \n");
254         printf("3--> Display details of student \n");
255         printf("4--> Search specific information \n");
256         printf("5--> Delete any detail \n");
257         printf("6--> Display Auth Data \n");
258         printf("0--> Exit \n");
259         printf("Enter your choice : ");
260         scanf("%d", &ch);
261         switch (ch)
262         {
263             case 1:
264                 auth();
265                 break;
266             case 2:
267                 insert();
268                 break;
269             case 3:
270                 display();
271                 break;
272             case 4:
273                 search();
274
275                 break;
276             case 5:
277                 delete();
278                 break;
279             case 6:
280                 displayauth();
281                 break;
282
283             default:
284                 printf("Invalid choice \n");
285                 break;
286         }
287     } while (ch != 0);
288
289     return 0;
290 }
291 }
```

OUTPUT SNAPSHOTS

```
PS C:\lpu_cprograming> .\a.exe
1--> Login/ Authentication
2--> Insert details of student
3--> Display details of student
4--> Search specific information
5--> Delete any detail
6--> Display Auth Data
0--> Exit
Enter your choice : 1
Enter the email : ArpitSoni
Enter the password : 1234
Confirm the password : 1234
Password matched
Registration is done
1--> Login/ Authentication
2--> Insert details of student
3--> Display details of student
4--> Search specific information
5--> Delete any detail
6--> Display Auth Data
0--> Exit
```

MODULE 1 IS EXECUTED

```
Enter your choice : 2
Enter the email : ArpitSoni
Enter the password : 1234
Login successful
Enter the name of the student : Arpit
Enter the registration number of the student : 12206434
Enter the number of subjects : 3
Enter the name of the subject : CSE101
Enter the total number of classes : 42
Enter the number of classes attended : 38
Enter the name of the subject : DBMS
Enter the total number of classes : 54
Enter the number of classes attended : 47
Enter the name of the subject : MEC135
Enter the total number of classes : 33
Enter the number of classes attended : 30
Student details added successfully
```

MODULE 2 IS EXECUTED

```

1--> Login/ Authentication
2--> Insert details of student
3--> Display details of student
4--> Search specific information
5--> Delete any detail
6-->Display Auth Data
0--> Exit
Enter your choice : 3
Name : Arpit
Email : ArpitSoni
Registration number : 12206434
Total Subjects are : 3
Overall attendance percentage : 89

```

| Subject | Total classes | Attended classes | Attendance percentage |
|---------|---------------|------------------|-----------------------|
| CSE101 | 42 | 38 | 90.00 |
| DBMS | 54 | 47 | 87.00 |
| MEC135 | 33 | 30 | 90.00 |

MODULE 3 IS EXECUTED

```

1--> Login/ Authentication
2--> Insert details of student
3--> Display details of student
4--> Search specific information
5--> Delete any detail
6-->Display Auth Data
0--> Exit
Enter your choice : 4
Enter the registration number of the student : 12206434
1-->Overall attendance percentage
2-->Subject wise attendance percentage
Enter your choice : 1
Overall attendance percentage : 89
1--> Login/ Authentication
2--> Insert details of student
3--> Display details of student
4--> Search specific information
5--> Delete any detail
6-->Display Auth Data
0--> Exit
Enter your choice : 5
Enter the registration number of the student : 12206434
Are you sure you want to delete the details of Arpit (y/n) : n
Details not deleted

```

MODULE 4,5,6 ARE EXECUTED

THE END