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#include <stdio.h>
#include <stdlib.h>
#include <string.h>

#define STUD_FILE "students.txt"
#define CRE_FILE "credentials.txt"

char currentUser[50];
char currentRole[20];

int login() {
    char u[50], p[50], r[20];
    char inUser[50], inPass[50];

    printf("USERNAME: ");
    scanf("%s", inUser);
    printf("PASSWORD: ");
    scanf("%s", inPass);

    FILE *fp = fopen(CRE_FILE, "r");
    if (!fp) {
        printf("Credential file missing!\n");
        return 0;
    }

    while (fscanf(fp, "%s %s %s", u, p, r) == 3) {
        if (strcmp(inUser, u) == 0 && strcmp(inPass, p) == 0) {
            strcpy(currentUser, u);
            strcpy(currentRole, r);
            fclose(fp);
            return 1;
        }
    }
}
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    }

}

fclose(fp);

return 0;

}

void addStudent() {

    int roll;

    char name[50];

    float mark;

    printf("Roll: ");

    scanf("%d", &roll);

    printf("Name: ");

    scanf(" %[^\n]", name);

    printf("Mark: ");

    scanf("%f", &mark);

    FILE *fp = fopen(STUD_FILE, "a");

    fprintf(fp, "%d %s %.2f\n", roll, name, mark);

    fclose(fp);

    printf("Student added!\n");

}

void displayStudents() {

    FILE *fp = fopen(STUD_FILE, "r");

    if (!fp) {

        printf("No student file!\n");

        return;
}
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}

int roll;
char name[50];
float mark;

printf("Roll\tName\tMark\n");
printf("----\t----\t---\n");
while (fscanf(fp, "%d %s %f", &roll, name, &mark) == 3) {
    printf("%d\t%s\t%.2f\n", roll, name, mark);
}

fclose(fp);
}

void searchStudent() {
    int find, roll;
    char name[50];
    float mark;

    printf("Enter roll to search: ");
    scanf("%d", &find);

    FILE *fp = fopen(STUD_FILE, "r");
    while (fscanf(fp, "%d %s %f", &roll, name, &mark) == 3) {
        if (roll == find) {
            printf("Found: %d %s %.2f\n", roll, name, mark);
            fclose(fp);
            return;
        }
    }
}
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fclose(fp);

printf("Student not found!\n");

}

void deleteStudent() {

    int delRoll;

    printf("Enter roll to delete: ");

    scanf("%d", &delRoll);

    FILE *fp = fopen(STUD_FILE, "r");

    FILE *temp = fopen("temp.txt", "w");

    int roll;
    char name[50];
    float mark;
    int found = 0;

    while (fscanf(fp, "%d %s %f", &roll, name, &mark) == 3) {

        if (roll != delRoll) {

            fprintf(temp, "%d %s %.2f\n", roll, name, mark);

        } else {

            found = 1;

        }

    }

    fclose(fp);

    fclose(temp);

    remove(STUD_FILE);

    rename("temp.txt", STUD_FILE);
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if (found) printf("Student deleted!\n");
else printf("Roll not found!\n");

}

void updateStudent() {
    int updateRoll;
    printf("Enter roll to update: ");
    scanf("%d", &updateRoll);

    FILE *fp = fopen(STUD_FILE, "r");
    FILE *temp = fopen("temp.txt", "w");

    int roll;
    char name[50];
    float mark;
    int found = 0;

    while (fscanf(fp, "%d %s %f", &roll, name, &mark) == 3) {
        if (roll == updateRoll) {
            found = 1;
            char newName[50];
            float newMark;

            printf("New Name: ");
            scanf(" %[^\n]", newName);
            printf("New Mark: ");
            scanf("%f", &newMark);

            fprintf(temp, "%d %s %.2f\n", roll, newName, newMark);
        } else {
            fprintf(temp, "%d %s %.2f\n", roll, name, mark);
        }
    }

    fclose(fp);
    fclose(temp);
    remove(STUD_FILE);
    rename("temp.txt", STUD_FILE);
}
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        }

    }

fclose(fp);
fclose(temp);

remove(STUD_FILE);
rename("temp.txt", STUD_FILE);

if (found) printf("Student updated!\n");
else printf("Roll not found!\n");

}

void adminMenu() {
    int c;
    while (1) {
        printf("\nADMIN MENU\n");
        printf("1.Add\n2.Display\n3.Search\n4.Update\n5.Delete\n6.Logout\n");
        scanf("%d",&c);
        if(c==1)addStudent();
        else if(c==2)displayStudents();
        else if(c==3)searchStudent();
        else if(c==4)updateStudent();
        else if(c==5)deleteStudent();
        else return;
    }
}

void staffMenu() {
    int c;
    while (1) {
```

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printf("\nSTAFF MENU\n");
printf("1.Add\n2.Display\n3.Search\n4.Update\n5.Logout\n");
scanf("%d",&c);
if(c==1)addStudent();
else if(c==2)displayStudents();
else if(c==3)searchStudent();
else if(c==4)updateStudent();
else return;
}
}
```

```
void guestMenu() {
    int c;
    while (1) {
        printf("\nGUEST MENU\n");
        printf("1.Display\n2.Search\n3.Logout\n");
        scanf("%d",&c);
        if(c==1)displayStudents();
        else if(c==2)searchStudent();
        else return;
    }
}
```

```
int main() {
    if (!login()) {
        printf("Invalid login!\n");
        return 0;
    }
    printf("Logged in as: %s\n", currentRole);
```

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if (strcmp(currentRole,"admin")==0) adminMenu();
else if (strcmp(currentRole,"staff")==0) staffMenu();
else guestMenu();

return 0;
}
```