DEPARTMENT OF BASIC SCIENCE AND HUMANITIES

INSTITUTE OF ENGINEERING AND MANAGEMENT, KOLKATA.

STUDENT MANAGEMENT SYSTEM

SUBMITTED BY:

NAME: **ANGIRAVO SAHA**

ENTROLLMENT NUMBER: **12022002003129**

SECTION: **G**

CLASS ROLL NUMBER: **23**

STREAM: **ECE**

SUBJECT: **PROGRAMMING FOR PROBLEM SOLVING USING C**

SUBJECT CODE: **ESC103(PR)**

DEPARTMENT: **BASIC SCIENCE AND HUMANITIES**

UNDER THE SUPERVISION OF:

PROF: SWARNENDU GHOSH

ACADEMIC YEAR: 2022-2023

(PROJECT REPORT SUBMITTED IN FULFILLMENT OF THE REQUIREMENTS FOR THE SECOND SEMESTER)

CERTIFICATE OF RECOMMENDATION

We hereby recommend that the project prepared under our supervision by Anushka Pandit, entitled “Student Management System” be accepted in fulfilment of the requirements for the degree of fulfilment of the second semester.

Head of the Department
IEM, Kolkata

Project Supervisor
Basic Science and Humanities

1. INTRODUCTION:

This project is assigned to me for developing a Student Management System with the help of basic C programming language.

The basic aim of the project is to create a student management system where we

need to put up basic student details and thereby with the help of c

programming, we have to create a portal (.exe file) for adding new student information,

their roll number, marks obtained, reading and deleting student information,viewing all student list at a glance.

2. Variable Description:

The different variables used in this project are listed under:-

1. int- To store integer datatypes.

2. char- To store character datatypes.

3. Function Description:

The different functions (structures) used in this project are listed under:-

1. create_student- For creating the required student details vis. name,.

2. read_student- For reading the student details.

3. update_student- For updating any student information.

4. delete_student- To delete any of the student information.

5. struct_student – A value struct is ca fixed size structure that contains only public data fields and is declared by using the value struct keyword.

5.PROGRAM CODE:

```c
    scanf("%f", &s->marks);
    if (s->marks >= 90) {
        s->grade = 'A';
    } else if (s->marks >= 80) {
        s->grade = 'B';
    } else if (s->marks >= 70) {
        s->grade = 'C';
    } else if (s->marks >= 60) {
        s->grade = 'D';
    } else {
        s->grade = 'F';
    }
}

void read_student(struct student *s) {
    printf("Name: %s\n", s->name);
    printf("Roll Number: %d\n", s->roll_number);
    printf("Marks: %.2f\n", s->marks);
```

student[1].c | Extension: C/C++ Extension Pack

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```c
    printf("Grade: %c\n", s->grade);
}

void update_student(struct student *s) {
    printf("Enter new name (or press enter to keep the same): ");
    char new_name[MAX_NAME_LENGTH];
    getchar();
    fgets(new_name, MAX_NAME_LENGTH, stdin);
    new_name[strcspn(new_name, "\n")] = '\0'; // remove newline character
    if (strlen(new_name) > 0) {
        strcpy(s->name, new_name);
    }
    printf("Enter new marks (or enter -1 to keep the same): ");
    float new_marks;
    scanf("%f", &new_marks);
    if (new_marks != -1) {
        s->marks = new_marks;
        if (s->marks >= 90) {
            s->grade = 'A';
        } else if (s->marks >= 80) {
            s->grade = 'B';
        } else if (s->marks >= 70) {
            s->grade = 'C';
        } else if (s->marks >= 60) {
            s->grade = 'D';
        } else {
            s->grade = 'F';
        }
    }
}

void delete_student(struct student *s) {
    memset(s->name, 0, MAX_NAME_LENGTH);
    s->roll_number = 0;
    s->marks = 0.0;
    s->grade = '\0';
}
```

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```c

int main() {
    struct student students[MAX_STUDENTS];
    int num_students = 0;
    int choice = 0;
    while (choice != 6) {
        printf("Menu:\n");
        printf("1. Create new student\n");
        printf("2. Read student\n");
        printf("3. Update student\n");
        printf("4. Delete student\n");
        printf("5. View all students list\n");
        printf("6. Exit\n");
        printf("Enter your choice: ");
        scanf("%d", &choice);
        printf("\n");
        switch (choice) {
            case 1:
```

```
            if (num_students < MAX_STUDENTS) {
                create_student(&students[num_students]);
                num_students++;
                printf("Student created successfully.\n\n");
            } else {
                printf("Maximum number of students reached.\n\n");
            }
            break;
        case 2:
            printf("Enter roll number of student to read: ");
            int roll_number_to_read;
            scanf("%d", &roll_number_to_read);
            printf("\n");
            int found_student_index = -1;
            for (int i = 0; i < num_students; i++) {
                if (students[i].roll_number == roll_number_to_read) {
                    found_student_index = i;
                    break;
                }
```



```
            }
            if (found_student_index == -1) {
                printf("Student with roll number %d not found.\n\n", roll_number_to_read);
            } else {
                read_student(&students[found_student_index]);
                printf("\n");
            }
            break;
        case 3:
            printf("Enter roll number of student to update: ");
            int roll_number_to_update;
            scanf("%d", &roll_number_to_update);
            printf("\n");
            found_student_index = -1;
            for (int i = 0; i < num_students; i++) {
                if (students[i].roll_number == roll_number_to_update) {
                    found_student_index = i;
                    break;
                }
            }
            if (found_student_index == -1) {
                printf("Student with roll number %d not found.\n\n", roll_number_to_update);
            } else {
                update_student(&students[found_student_index]);
                printf("Student updated successfully.\n\n");
            }
            break;
        case 4:
            printf("Enter roll number of student to delete: ");
            int roll_number_to_delete;
            scanf("%d", &roll_number_to_delete);
            printf("\n");
            found_student_index = -1;
            for (int i = 0; i < num_students; i++) {
                if (students[i].roll_number == roll_number_to_delete) {
```

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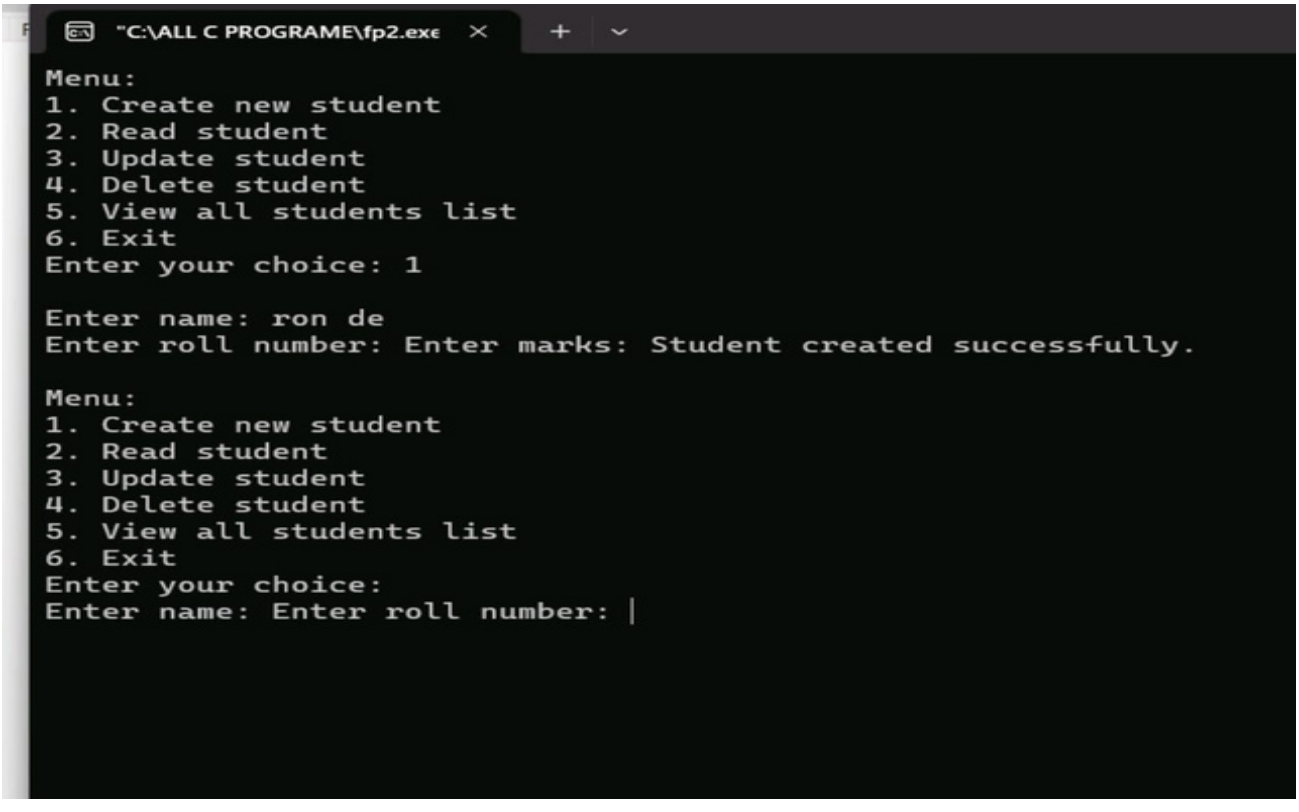
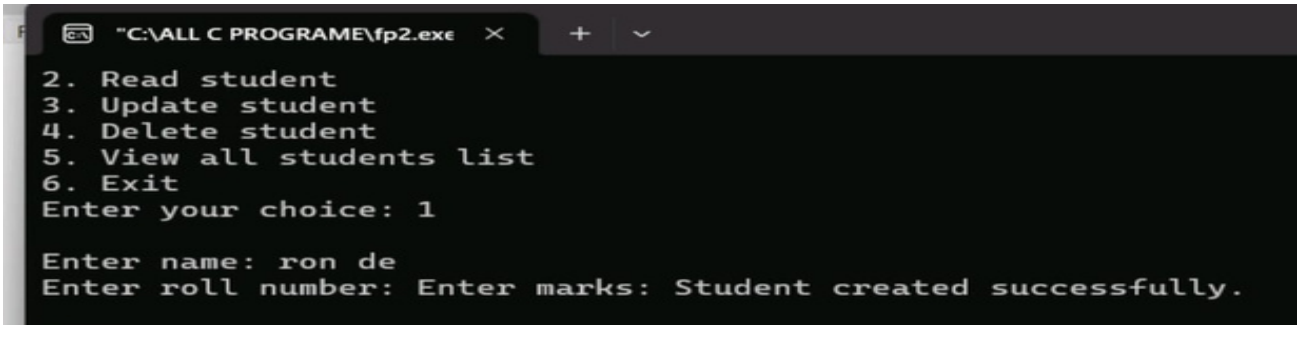
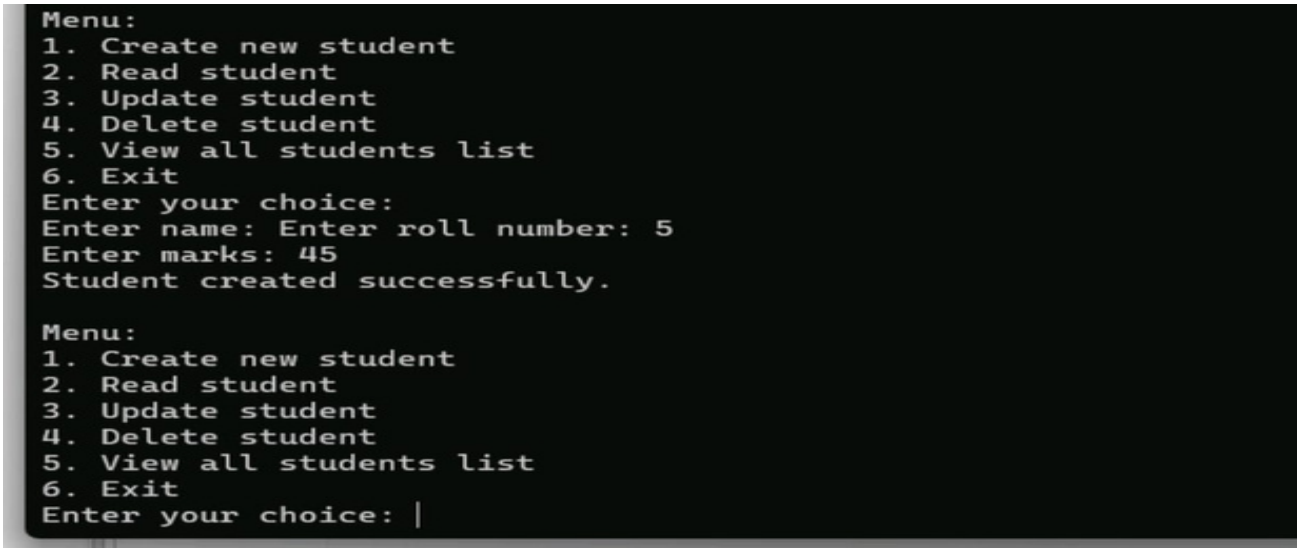
```
                }
            }
            if (found_student_index == -1) {
                printf("Student with roll number %d not found.\n\n", roll_number_to_delete);
            } else {
                delete_student(&students[found_student_index]);
                printf("Student deleted successfully.\n\n");
            }
            break;
        case 5:
            if (num_students == 0) {
                printf("No students to display.\n\n");
            } else {
                printf("All Students List:\n");
                for (int i = 0; i < num_students; i++) {
                    printf("Student %d:\n", i+1);
                    read_student(&students[i]);
                    printf("\n");
                }
            }
            break;
        case 6:
```

```
            printf("Exiting...\n");
            break;
        default:
            printf("Invalid choice. Please try again.\n\n");
            break;
    }
}
return 0;
}
```

6. OUTPUT:






Menu:
1. Create new student
2. Read student
3. Update student
4. Delete student
5. View all students list
6. Exit
Enter your choice:
Enter name: Enter roll number: 5
Enter marks: 45
Student created successfully.
Menu:
1. Create new student
2. Read student
3. Update student
4. Delete student
5. View all students list
6. Exit
Enter your choice:

THANK YOU!!!

1.