

# **STUDENT** **MANAGEMENT SYSTEM**

**Submitted by**

**Name of the Student:** Md Ayub Khan  
**Enrolment Number:** 12022002011059  
**Section:** I  
**Class Roll Number:** 63  
**Stream:** EE  
**Subject:** Programming for Problem Solving using C  
**Subject Code:** ESC103(PR.)  
**Department:** Basic Science and Humanities

Under the supervision of  
**Dr. Swarnendu Ghosh**

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PROJECT REPORT SUBMITTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE SECOND SEMESTER



**DEPARTMENT OF BASIC SCIENCE AND HUMANITITES**  
**INSTITUTE OF ENGINEERING AND MANAGEMENT, KOLKATA**



## CERTIFICATE OF RECOMMENDATION

We hereby recommend that the project prepared under our supervision by **Md Ayub Khan**, entitled STUDENT EXAMINAT be accepted in partial fulfillment of the requirements for the degree of partial fulfillment of the first semester.

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Head of the Department  
Basic Sciences and Humanities  
IEM, Kolkata

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Project Supervisor

# 1. Introduction

The project 'STUDENT MANAGEMENT SYSTEM' deals with the performances of students under various subjects in their exams. It is used for taking records of the students, their marks in the exams, the subjects in which the exams are being held. A Student Management System plays a vital role in modern educational institutions by automating administrative processes, improving data accuracy, and promoting collaboration, thereby contributing to a more efficient and effective learning environment.

## 1.1. Objective

The objective of the above code is to create a program that manages student data by allowing the user to input information for multiple students, including their name, roll number, and marks. The program calculates the grade based on the marks and stores it in the data structure. Finally, it displays the student data in tabular format, including their name, roll number, marks, and grade.

**Variable and Function Description Table:**

Variable	Data Type	Description
struct Student	Custom-defined structure	A structure that represents a student and contains the following variables
(a)name	char[]	An array of characters to store the name of the student.
(b)rollNo	int	An integer variable to store the roll number of the student.
(c)marks	float	A float variable to store the marks obtained by the student.
(d)grade	char[]	A character variable to store the grade of the student.
students	Array of 'struct Student'	An array of struct Student to store multiple student records.
numStudents	int	An integer variable to store the number of students entered by the user.
i	int	An integer variable used as a loop counter in for loops.

Functions	Description
calculateGrade	This function calculates the grade for a given student based on their marks.

## Program used:

```
#include <stdio.h>

#define MAX_STUDENTS 100

struct Student {
    char name[50];
    int rollNo;
    float marks;
    char grade;
};

void calculateGrade(struct Student *student) {
    if (student->marks >= 90)
        student->grade = 'A';
    else if (student->marks >= 80)
        student->grade = 'B';
    else if (student->marks >= 70)
        student->grade = 'C';
    else if (student->marks >= 60)
        student->grade = 'D';
    else
```

```

        student->grade = 'F';
    }

int main() {
    struct Student students[MAX_STUDENTS];
    int numStudents, i;

    printf("Enter the number of students: ");
    scanf("%d", &numStudents);

    if (numStudents > MAX_STUDENTS) {
        printf("Maximum number of students exceeded. Please try again.\n");
        return 1;
    }

    for (i = 0; i < numStudents; i++) {
        printf("\nStudent %d:\n", i + 1);
        printf("Enter name: ");
        scanf("%[^\n]s", students[i].name);
        printf("Enter roll number: ");
        scanf("%d", &students[i].rollNo);
        printf("Enter marks: ");
        scanf("%f", &students[i].marks);
        calculateGrade(&students[i]);
    }

    printf("\n\nStudent Data:\n");
    printf("-----\n");
    printf("Name\t\tRoll No\tMarks\tGrade\n");
    printf("-----\n");

    for (i = 0; i < numStudents; i++) {
        printf("%-15s%-8d%.2f\t%c\n", students[i].name, students[i].rollNo,
students[i].marks, students[i].grade);
    }

    printf("-----\n");

    return 0;
}

```

# Outputs

```
PS C:\Users\Wd Ayub Khan\.vscode\Introduction to C-programming> cd "c:\Users\Wd Ayub Khan\.vscode\Introduction to C-programming\" ; if ($?) { gcc C-Project-Code.c -o C-Project-C
ode } ; if ($?) { .\C-Project-Code }
Enter the number of students: 4

Student 1:
Enter name: Ayub
Enter roll number: 63
Enter marks: 94

Student 2:
Enter name: Sumit
Enter roll number: 26
Enter marks: 93

Student 3:
Enter name: Snehasis
Enter roll number: 07
Enter marks: 88

Student 4:
Enter name: Abhishek
Enter roll number: 39
Enter marks: 87

Student Data:
-----
Name      Roll No Marks  Grade
-----
Ayub      63      94.00  A
Sumit     26      93.00  A
Snehasis  7       88.00  B
Abhishek  39      87.00  B
-----
PS C:\Users\Wd Ayub Khan\.vscode\Introduction to C-programming> |
```