**PROGRAMMING**

**PROBLEM PROPOSAL**

Proposed By:

(Your name)  
  
Proposed To:

(Your Name)

**Title:**

Student Records Management System

**Introduction:**

You have been tasked with creating a C program to maintain student records for a school. The goal of this project is to provide a simple and efficient way for users to manage and access student records, which will be stored in a text file. The program should allow users to create, modify, and view individual student records, as well as perform data analysis based on the records.

**Description of the Project/Problem:**

You will be given a structure called "student" that represents a single student record. The following fields will be included in the structure:

-ID: the student's unique identify (integer)

-Name: the name of the student (string)

-Major: the student's field of study (string)

-GPA: the grade point average of the student (float)

The program should provide the following functionality:

- Add a new student record: The user should be able to enter the ID, name, major, and GPA of a new student and add the record to the system.

-Modify an existing student record: The user should be able to search for a student by their ID and update their name.

-View a single student record: The program should display a list of all student records in the system, including their ID, name, major, and GPA.

-Calculate and display the average GPA of all students: The program should calculate and display the average GPA of all students in the system.

-Determine and display the number of students in a particular major: The user should be able to search for a specific major, and the program should display the number of students enrolled in that major.

**Required Inputs:**

-Student identification number (integer)

-The student's name (string)

-The majority of the students (string)

-The student's GPA (float)

**Required Computations:**

-Calculate the average GPA of all students by summing the GPAs of all students and dividing by the total number of students.

-Determine the number of students enrolled in a specific major by searching the major field of each student record and counting the number of records that match the specified major.

**Required Outputs:**

-A confirmation message should be displayed when a new student record is added successfully. -A confirmation message should be displayed when an existing student record is modified successfully.

-The full record of a single student should be displayed when the user searches for a student by their ID.

-A list of all student records should be displayed, including the ID, name, major, and GPA of each student.

-The average GPA of all students should be displayed.

-The number of students enrolled in a specific major should be displayed when the user searches for that major.