# Student Record Management System

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## Abstract

This project focuses on the creation of a basic Student Record Management System using the C programming language. It allows users to perform operations such as adding, viewing, and deleting student records efficiently. The project demonstrates file-less handling of structured data and simulates a real-world academic record-keeping process.

## Introduction

A Student Record System helps manage student details digitally, reducing paperwork and minimizing human errors. In this C-based project, student details such as Name, Roll Number, and Course are stored in a structured format and operated through a simple terminal interface.

## Problem Statement

This project aims to provide a user-friendly and error-free system for managing student data efficiently using the C language.  
Manual handling of student records often leads to:  
- Data duplication  
- Loss of information  
- Time-consuming retrieval

## Flowchart

+----------------------+  
| Start Application |  
+----------+-----------+  
 |  
+----------v-----------+  
| Show Menu |  
| 1. Add Student |  
| 2. View Students |  
| 3. Delete Student |  
| 4. Exit |  
+----------+-----------+  
 |  
+----------v-----------+  
| Perform Operation |  
+----------+-----------+  
 |  
+----------v-----------+  
| Repeat Menu |  
+----------------------+

## Source Code (C Language)

#include <stdio.h>  
#include <stdlib.h>  
#include <string.h>  
  
struct Student {  
 char name[50];  
 int roll;  
 char course[50];  
};  
  
struct Student students[100];  
int count = 0;  
  
void addStudent() {  
 printf("Enter student name: ");  
 scanf(" %[^  
]s", students[count].name);  
 printf("Enter roll number: ");  
 scanf("%d", &students[count].roll);  
 printf("Enter course: ");  
 scanf(" %[^  
]s", students[count].course);  
 count++;  
}  
  
void viewStudents() {  
 for (int i = 0; i < count; i++) {  
 printf("Name: %s\n", students[i].name);  
 printf("Roll No: %d\n", students[i].roll);  
 printf("Course: %s\n\n", students[i].course);  
 }  
}  
  
void deleteStudent() {  
 int roll, found = 0;  
 printf("Enter roll to delete: ");  
 scanf("%d", &roll);  
 for (int i = 0; i < count; i++) {  
 if (students[i].roll == roll) {  
 for (int j = i; j < count - 1; j++)  
 students[j] = students[j + 1];  
 count--;  
 found = 1;  
 printf("Student deleted.\n");  
 break;  
 }  
 }  
 if (!found) printf("Not found.\n");  
}  
  
int main() {  
 int choice;  
 while (1) {  
 printf("1. Add\n2. View\n3. Delete\n4. Exit\nEnter choice: ");  
 scanf("%d", &choice);  
 switch (choice) {  
 case 1: addStudent(); break;  
 case 2: viewStudents(); break;  
 case 3: deleteStudent(); break;  
 case 4: exit(0);  
 }  
 }  
 return 0;  
}

## Sample Output

--- Student Record Management ---  
1. Add Student  
2. View Students  
3. Delete Student  
4. Exit  
Enter choice: 1  
Enter name: Priya  
Enter roll number: 101  
Enter course: BCA  
Student added successfully!

## Future Enhancements

- Add file handling to save data permanently  
- Create login system for admin and student  
- Develop a GUI version using C++/Qt  
- Upgrade to web or mobile platform  
- Integrate with databases (MySQL) for large data handling

## Conclusion

The Student Record Management System in C language is a simple and effective way to manage academic records. It demonstrates how structured data and user-defined functions can work together to create efficient, real-world applications.

## References

- Programming in ANSI C – E. Balagurusamy  
- GeeksforGeeks: www.geeksforgeeks.org  
- TutorialsPoint: www.tutorialspoint.com/cprogramming  
- C Programming Documentation: https://en.cppreference.com

Thank You

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