Programme Name: **BCS HONS**

Course Code: **CSC 2516**

Course Name: **Data Structure and Algorithm**

Assignment / Lab Sheet / **Project** / Case Study No. **1**

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Submitted By:

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Intake**: September 2019**

Submitted To:

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Department**: LMS**

PROJECT TITLE: STUDENT RECORD MANAGEMENT SYSTEM FOR COLLEGE

Abstract
Our project explains about the student management. This project mainly explains the various actions related to student details. The student Record System is based on the concept of managing student records. There's a login system available for this system, the user can freely use its feature. This mini project contains limited features, but the essential one. This project is helpful for managing student information by adding, updating, removing, viewing, and searching for details.

INTRODUCTION - STUDENT RECORD MANAGEMENT SYSTEM

Student Record Management System is software which is helpful for students as well as the school authorities. In the current system all the activities are done manually. It is very time consuming and costly. Our Student Management System deals with the various activities related to the students

Features

Talking about the features of this Simple system, the user can perform the CRUD operations to it. Like, add student details by entering his/her name, roll number, GPA, Course ID, name, etc. The user can also view all the available student records. Besides, the user can edit information as well as remove a student's whole data. The system creates an external file to store the user's data permanently. This system is developed using C Programming Language and different variables, strings have been used for the development of it.

Testing

As you see, there are 5 option.

- 1 is to insert student details,
- 2 is to search student details,
- 3 is to delete the student detail,
- 4 is to update or change student detail and
- 5 is to display all student detail.

- **When you select option 1, we put the information of the student such as roll number, name, phone number and your marks**.

```
SUNWAY STUDENT RECORD MANAGEMENT SYSTEM
1. Insert student details
2. Search for student details
3. Delete student details
4. Update student details
5. Display all student details
Enter Choice: 1
Enter roll number: 17
Enter name: Dipesh
Enter phone number: 9876543210
Enter Address: Bode
Enter Semester: 4th
Enter percentage: 79

Enter Choice: 1
Enter roll number: 1
Enter name: Mikasa
Enter phone number: 0987654321
Enter Address: maria
Enter Semester: 4th
Enter percentage: 99
```

- **Option 2 help you to find student detail with your roll number**.

```
Enter Choice: 2
Enter roll number to search: 17
Roll Number: 17
Name: Dipesh
Phone: 9876543210
Address: Bode
Semester: 4th
Percentage: 79.0000
```

- **Option 5 help to display all the detail of student which have been recorded or inserted**.

```
Enter Choice: 5
Roll Number: 1
Name: zoro
Phone: 2
Address: 2
Semester: 2
Percentage: 2.0000

Roll Number: 1
Name: Mikasa
Phone: 0987654321
Address: maria
Semester: 4th
Percentage: 99.0000

Roll Number: 17
Name: Dipesh
Phone: 9876543210
Address: Bode
Semester: 4th
Percentage: 79.0000
```

- **Option 3 helps you to delete the student record by its roll number, as you can see roll no 1(zoro) have been deleted from the record**

```
Enter Choice: 3
Enter roll number to delete: 1
Record with roll number 1 Found !!!
Record Successfully Deleted !!!

Enter Choice: 5
Roll Number: 1
Name: Mikasa
Phone: 0987654321
Address: maria
Semester: 4th
Percentage: 99.0000

Roll Number: 17
Name: Dipesh
Phone: 9876543210
Address: Bode
Semester: 4th
Percentage: 79.0000
```

- **Option 4 help to change or modify the student information.**

```
Enter Choice: 4
Enter roll number to update: 17
Record with roll number 17 Found !!!
Enter new name: Dipeshtha
Enter new phone number: 9876543200
Enter New Address: newBode
Enter New Semester: 5th
Enter new percentage: 89
Updation Successful!!!

Enter Choice: 2
Enter roll number to search: 17
Roll Number: 17
Name: Dipeshtha
Phone: 9876543200
Address: newBode
Semester: 5th
Percentage: 89.0000
```

Appendix

```c
#include<stdlib.h>
#include<string.h>
#include<stdio.h>
struct Student
{
    int rollnumber;
    char name[100];
    char phone[100];
    char address[100];
    char semester[100];
    float percentage;
    struct Student *next;

}* head;
void insert(int rollnumber, char* name, char* phone, char* address, char* semeste
r, float percentage)
{

    struct Student * student = (struct Student *) malloc(sizeof(struct Student));
    student->rollnumber = rollnumber;
    strcpy(student->name, name);
    strcpy(student->phone, phone);
    strcpy(student->address, address);
    strcpy(student->semester, semester);
    student->percentage = percentage;
    student->next = NULL;

    if(head==NULL){
        // if head is NULL
        // set student as the new head
        head = student;
    }
    else{
        // if list is not empty
        // insert student in beginning of head
        student->next = head;
        head = student;
    }

}
void search(int rollnumber)
{
    struct Student * temp = head;
    while(temp!=NULL){
```

```
        if(temp->rollnumber==rollnumber){
            printf("Roll Number: %d\n", temp->rollnumber);
            printf("Name: %s\n", temp->name);
            printf("Phone: %s\n", temp->phone);
            printf("Address: %s\n", temp->address);
            printf("Semester: %s\n", temp->semester);
            printf("Percentage: %0.4f\n", temp->percentage);
            return;
        }
        temp = temp->next;
    }
    printf("Student with roll number %d is not found !!!\n", rollnumber);
}
void update(int rollnumber)
{

    struct Student * temp = head;
    while(temp!=NULL){

        if(temp->rollnumber==rollnumber){
            printf("Record with roll number %d Found !!!\n", rollnumber);
            printf("Enter new name: ");
            scanf("%s", temp->name);
            printf("Enter new phone number: ");
            scanf("%s", temp->phone);
            printf("Enter New Address: ");
            scanf("%s", temp->address);
            printf("Enter New Semester: ");
            scanf("%s", temp->semester);
            printf("Enter new percentage: ");
            scanf("%f",&temp->percentage);
            printf("Updation Successful!!!\n");
            return;
        }
        temp = temp->next;

    }
    printf("Student with roll number %d is not found !!!\n", rollnumber);

}
void Delete(int rollnumber)
{
    struct Student * temp1 = head;
    struct Student * temp2 = head;
    while(temp1!=NULL){
```

```
        if(temp1->rollnumber==rollnumber){

            printf("Record with roll number %d Found !!!\n", rollnumber);

            if(temp1==temp2){
                // this condition will run if
                // the record that we need to delete is the first node
                // of the linked list
                head = head->next;
                free(temp1);
            }
            else{
                // temp1 is the node we need to delete
                // temp2 is the node previous to temp1
                temp2->next = temp1->next;
                free(temp1);
            }

            printf("Record Successfully Deleted !!!\n");
            return;

        }
        temp2 = temp1;
        temp1 = temp1->next;

    }
    printf("Student with roll number %d is not found !!!\n", rollnumber);

}
void display()
{
    struct Student * temp = head;
    while(temp!=NULL){

        printf("Roll Number: %d\n", temp->rollnumber);
        printf("Name: %s\n", temp->name);
        printf("Phone: %s\n", temp->phone);
        printf("Address: %s\n", temp->address);
        printf("Semester: %s\n", temp->semester);
        printf("Percentage: %0.4f\n\n", temp->percentage);
        temp = temp->next;

    }
}
```

```c
int main()
{
    head = NULL;
    int choice;
    char name[100];
    char phone[100];
    char address[100];
    char semester[100];
    int rollnumber;
    float percentage;
    printf("SUNWAY STUDENT RECORD MANAGEMENT SYSTEM\n1. Insert student details\n2
. Search for student details\n3. Delete student details\n4. Update student detail
s\n5. Display all student details");
    do
    {
        printf("\nEnter Choice: ");
        scanf("%d", &choice);
        switch (choice)
        {
            case 1:
                printf("Enter roll number: ");
                scanf("%d", &rollnumber);
                printf("Enter name: ");
                scanf("%s", name);
                printf("Enter phone number: ");
                scanf("%s", phone);
                printf("Enter Address: ");
                scanf("%s", address);
                printf("Enter Semester: ");
                scanf("%s", semester);
                printf("Enter percentage: ");
                scanf("%f", &percentage);
                insert(rollnumber, name, phone, address, semester, percentage);
                break;
            case 2:
                printf("Enter roll number to search: ");
                scanf("%d", &rollnumber);
                search(rollnumber);
                break;
            case 3:
                printf("Enter roll number to delete: ");
                scanf("%d", &rollnumber);
                Delete(rollnumber);
                break;
            case 4:
```

```
                printf("Enter roll number to update: ");
                scanf("%d", &rollnumber);
                update(rollnumber);
                break;
            case 5:
                display();
                break;
        }

    } while (choice != 0);
}
```

Output:
When you run the code

```
PS C:\Fourth Semester\Data Structu
Algorithms\CSC_2516_INDIVIDUAL PR
}
STUDENT RECORD MANAGEMENT SYSTEM
1. Insert student details
2. Search for student details
3. Delete student details
4. Update student details
5. Display all student details
```

Thank You