**Institute of Computer Technology**

**B. Tech. Computer Science and Engineering**

**Sub: ESFP – II**

**Course Code: 2CSE203**

**Practical – 1**

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**Sem - 2**

**Branch: CS**

**Class: B**

**Batch: 25**

**Objective:**

To learn DMA (Dynamic memory allocation)

**Problem Definition-1:**

Lords Universal College, which is situated at Mumbai. College authority decides to come up with a new idea for handling examination section seating arrangements for different-different courses. For that, college wants separate records, those who one is giving a remedial exam for the semester-II. For that, the college wants to take all the information related to students like rollno, name, class, semester, subject, and exam fee. So, whenever is required to search records by id, or by name or by class, he can search randomly and make a proper seating arrangement as per the rules of the examination committee. So, for the fulfilment of the above said requirement make a proper DMA program using C.

**Code:**

#include <stdio.h>

#include <stdlib.h>

#include <string.h>

struct Student

{

    int rollno;

    char name[50];

    char class[20];

    char semester[10];

    char subject[30];

    int fee;

};

int main()

{

    int n;

    printf("Enter how many records you want to store: ");

    scanf("%d", &n);

    struct Student \*students = (struct Student \*)malloc(n \* sizeof(struct Student));

    for (int i = 0; i < n; i++)

    {

        printf("Enter student information (RollNo Name Class Semester Subject fee): ");

        scanf("%d %s %s %s %s %d", &students[i].rollno, students[i].name, students[i].class, students[i].semester, students[i].subject, &students[i].fee);

    }

    printf("=====================Output of student information============\n");

    for (int i = 0; i < n; i++)

    {

        printf("%d %s %s %s %s %d\n", students[i].rollno, students[i].name, students[i].class, students[i].semester, students[i].subject, students[i].fee);

    }

    char search[50];

    printf("\nFind the student record by name:\nEnter student name: ");

    scanf("%s", search);

    int found = 0;

    for (int i = 0; i < n; i++)

    {

        if (strcmp(students[i].name, search) == 0)

        {

            printf("%d %s %s %s %s %d\n", students[i].rollno, students[i].name, students[i].class, students[i].semester, students[i].subject, students[i].fee);

            found = 1;

            break;

        }

    }

    if (!found)

    {

        printf("Student with name '%s' not found.\n", search);

    }

    free(students);

    return 0;

}

**Output:**

