



**Daffodil**  
*International*  
**University**

## LAB REPORT

**Course Title** : Data Structure Lab  
**Course Code** : CSE135

### SUBMITTED TO:

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**Lecturer**  
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### SUBMITTED BY:

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**Submission Date: 28-08-2023**

## **Experiment No: - 01**

**Experiment Name: -** A program to store student information using structures in C.

### **Code:-**

```
#include <stdio.h>
#include <string.h>
struct Student {
    char name[50];
    int studentId;
    char section[20];
};
int main() {
    int stdNum;
    printf("Enter the number of students: ");
    scanf("%d", &stdNum);
    getchar();
    struct Student students[stdNum];
    for (int i = 0; i < stdNum; i++) {
        printf("\nEnter details for student #%d:\n", i + 1);
        printf("Name: ");
        fgets(students[i].name, sizeof(students[i].name), stdin);
        students[i].name[strcspn(students[i].name, "\n")] = '\0';
        printf("Student ID: ");
        if (scanf("%d", &students[i].studentId) != 1) {
            printf("Invalid input for student ID. Please try again.\n");
            return 1;
        }
        getchar();
        printf("Section: ");
        fgets(students[i].section, sizeof(students[i].section), stdin);
        students[i].section[strcspn(students[i].section, "\n")] = '\0';
    }
    printf("\nStudent Information:\n");
    for (int i = 0; i < stdNum; i++) {
        printf("\nDetails of student #%d:\n", i + 1);
        printf("Name: %s\n", students[i].name);
        printf("Student ID: %d\n", students[i].studentId);
        printf("Section: %s\n", students[i].section);
    }
    return 0;
}
```

## **Output:-**

File - Data\_Structure

```
1 "D:\Data Structure\cmake-build-debug\Data_Structure.exe"
2 Enter the number of students:3
3
4 Enter details for student #1:
5 Name:Mehedi Hasan Rohan
6 Student ID:5910
7 Section:U
8
9 Enter details for student #2:
10 Name:RS Riyad
11 Student ID:5592
12 Section:V
13
14 Enter details for student #3:
15 Name:Tajbir santo
16 Student ID:5591
17 Section:W
18
19 Student Information:
20
21 Details of student #1:
22 Name: Mehedi Hasan Rohan
23 Student ID: 5910
24 Section: U
25
26 Details of student #2:
27 Name: RS Riyad
28 Student ID: 5592
29 Section: V
30
31 Details of student #3:
32 Name: Tajbir santo
33 Student ID: 5591
34 Section: W
35
36 Process finished with exit code 0
37
```

## **Discussion:-**

This code is a program that allows the user to enter details for multiple students and then displays the entered information. It uses a struct called "Student" to store the name, student ID, and section for each student. The program starts by asking the user to enter the number of students. It then creates an array of Student structs with a size equal to the entered number of students. Next, it uses a loop to prompt the user for details of each student. The user is asked to enter the name, student ID, and section for each student. The input for the name and section are read using fgets to handle cases where the user enters strings with spaces. The newline character at the end of the input is replaced with a null character to remove it from the string. After all the student details are entered, the program displays the student information by looping through the array of Student structs and printing each detail.