

PRACTICAL-1

Aim-Write a C program to read and print students' details like Student Name, Enrolment number, Branch and semester using structure.

Input:-

```
#include <stdio.h>
struct student {
    char name[50];
    int Semester;
    char Branch[50];
    int roll;
} s;

int main() {
    printf("Enter information:\n");
    printf("Enter name: ");
    fgets(s.name, sizeof(s.name), stdin);
    printf("Enter roll number: ");
    scanf("%d", &s.roll);
    printf("Enter branch: ");
    scanf("%s", s.Branch);
    printf("enter the semester: ");
    scanf("%d",&s.Semester);
    printf("Displaying Information:\n");
    printf("Name: ");
    printf("%s", s.name);
    printf("Roll number: %d\n", s.roll);
    printf("branch: %s\n", s.Branch);
    printf("semester: %d\n",s.Semester);
    return 0;
}
```

Output:-

```
Enter information:
Enter name: tom
Enter roll number: 051
Enter branch: cse
enter the semester: 1
Displaying Information:
Name: tom
Roll number: 51
branch: cse
semester: 1
```

PRACTICAL-2

Aim-Write a C Program to create Student Structure in which accept student name, student roll no and marks of 5 subjects and its average and print in descending order using structure.

Input:-

```
#include<stdio.h>
struct student
{
    int rno;
    char name[20];
    int marks[5];
    int total;
    float avg;
}stud[2];
int main()
{
    int i,j;
    struct student s;
    for(i=0;i<2;i++)
    {
        printf("Enter Record for Student-%d \n",i+1);
        printf("-----\n");
        printf("Enter Roll-No. : ");
        scanf("%d",&stud[i].rno);
        printf("Enter Name : ");
        scanf("%s",stud[i].name);
        stud[i].total=0;
        for(j=0;j<5;j++)
        {
            printf("Enter Marks of Subject %d : ",j+1);
            scanf("%d",&stud[i].marks[j]);
            stud[i].total=stud[i].total+stud[i].marks[j] ;
            stud[i].avg=stud[i].total/5.0;
        }
        printf("\n-----\n");
    }
    for(i=0;i<2;i++)
    {
        for(j=i+1;j<2;j++)
        {
            if(stud[i].total<stud[j].total)
            {
                s=stud[i];
                stud[i]=stud[j];
                stud[j]=s;
            }
        }
    }
    printf("Records in Descending Order.\n (According to Total-Marks)");
    printf("\n-----\n");
    printf("\n ROLLNO  NAME  TOTAL-MARKS  AVG\n");
```

```

    for(i=0;i<2;i++)
    {
        printf("\n %d\t %s\t %d\t %.2f",stud[i].rno,stud[i].name,stud[i].total,stud[i].avg);
    }
    return 0;
}

```

Output:-

Enter Record for Student-1

```

-----
Enter Roll-No. : 124
Enter Name    : jery
Enter Marks of Subject 1 : 65
Enter Marks of Subject 2 : 75
Enter Marks of Subject 3 : 95
Enter Marks of Subject 4 : 85
Enter Marks of Subject 5 : 55

```

Enter Record for Student-2

```

-----
Enter Roll-No. : 6552
Enter Name    : tom
Enter Marks of Subject 1 : 56
Enter Marks of Subject 2 : 66
Enter Marks of Subject 3 : 77
Enter Marks of Subject 4 : 88
Enter Marks of Subject 5 : 99

```

Records in Descending Order.
(According to Total-Marks)

```

-----
ROLLNO  NAME  TOTAL-MARKS  AVG

```

```

6552   tom   275    55.00

```

PRACTICAL-3

Aim-Write a C program to read and print employee details like employ name, employ id, employ organization name, employ salary using structure and print all the details at the end of program.

Input:-

```
#include <stdio.h>
```

```
struct employee{
    char   name[30];
    char   organizationname[30];
    int    empld;
    float  salary;
```

```
};
```

```
int main()
```

```
{
```

```
    struct employee emp;
```

```
    printf("\nEnter details :\n");
```

```
    printf("\n-----\n");
```

```
    printf("Organization Name :");      gets(emp.organizationname);
```

```
    printf("Employee Name :");        gets(emp.name);
```

```
    printf("Employee ID :");          scanf("%d",&emp.empld);
```

```
    printf("Employee Salary :");      scanf("%f",&emp.salary);
```

```
    printf("\nEnter detail is:");
```

```
    printf("\n Organization Name : %s",emp.organizationname);
```

```
    printf("\n Employee Name : %s" ,emp.name);
```

```
    printf("\n Employee ID : %d" ,emp.empld);
```

```
    printf("\n Employee Salary : %f\n",emp.salary);
```

```
    return 0;
```

```
}
```

Output:-

Enter details :

warning: this program uses gets(), which is unsafe.

Organization Name :github

Employee Name :jeery

Employee ID :2019348

Employee Salary :200000

Entered detail is:

Organization Name : github

Employee Name : jeery

Employee ID : 2019348

Employee Salary : 200000.000000

PRACTICAL-4

Aim-Write a C program for print student college details with using of structure within structure (nested structure) and pointer variable.

Input:-

```
#include <stdio.h>
#include <string.h>
struct student_college_detail
{
    int college_id;
    char college_name[50];
};
struct student_detail
{
    int id;
    char name[20];
    float percentage;
    // structure within structure
    struct student_college_detail clg_data;
}stu_data, *stu_data_ptr;
int main()
{
    struct student_detail stu_data = {1, "patel", 19.5, 345675,
                                      "Navrachana University"};
    stu_data_ptr = &stu_data;
    printf(" Id is: %d \n", stu_data_ptr->id);
    printf(" Name is: %s \n", stu_data_ptr->name);
    printf(" Percentage is: %f \n\n",
           stu_data_ptr->percentage);
    printf(" College Id is: %d \n",
           stu_data_ptr->clg_data.college_id);
    printf(" College Name is: %s \n",
           stu_data_ptr->clg_data.college_name);
    return 0;
}
```

Output:-

Id is: 1

Name is: patel

Percentage is: 19.500000

College Id is: 345675

College Name is: Navrachana University

PRACTICAL-5

Aim-Write a c Program for print person details like name, address, age, occupation with using the Union and print person details at the end of program.

Input:-

```
#include <stdio.h>
```

```
#include <string.h>
```

```
union student
```

```
{  
    char name[20];  
    char address[1000];  
    int age;  
    char occupation[100];  
};
```

```
int main()
```

```
{  
    union student record1;  
    union student record2;
```

```
    printf("\n \n");  
    printf("Union record_1\n");  
    strcpy(record1.name, "Ajey Nagar");  
    printf(" Name      : %s \n", record1.name);
```

```
    record1.age = 21;  
    printf(" Age       : %d \n", record1.age);
```

```
    strcpy(record1.occupation, "Indian YouTuber");  
    printf(" Occupation : %s \n", record1.occupation);
```

```
    strcpy(record1.address, "Faridabad, Haryana, India");  
    printf(" address   : %s \n", record1.address);
```

```
    printf("\n \n");  
    printf("Union record_2\n");  
    strcpy(record1.name, "Bhuvan Bam");  
    printf(" Name      : %s \n", record1.name);
```

```
    record1.age = 27;  
    printf(" Age       : %d \n", record1.age);
```

```
    strcpy(record1.occupation, "Indian YouTuber");  
    printf(" Occupation : %s \n", record1.occupation);
```

```
    strcpy(record1.address, "New Delhi, India");  
    printf(" address   : %s \n", record1.address);  
    return 0;
```

```
}
```

Output:-

Union record_1

Name : Ajey Nagar

Age : 21

Occupation : Indian YouTuber

address : Faridabad, Haryana, India

Union record_2

Name : Bhuvan Bam

Age : 27

Occupation : Indian YouTuber

address : New Delhi, India