**ASSIGNMENT-1**

**By**

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**Semester:-IST**

**Department Name:-CSE**

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**Model Institute of Engineering & Technology (Autonomous)**

(Permanently Affiliated to the University of Jammu, Accredited by NAAC with “A” Grade)

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**Q1.WRITE A C PROGRAM TO FIND THE FACTORIAL OF A NUMBER USING A RECURSIVE FUNCTION.**

#include <stdio.h>

int factorial(int n)

{

if(n==0 || n==1)

return 1;

else

return n\*factorial(n-1);

};

int main()

{

int number;

printf("Enter the number :- ");

scanf("%d",&number);

if(number<0)

printf("Factorial is not defined for negative numbers\n");

else

{

int result = factorial(number);

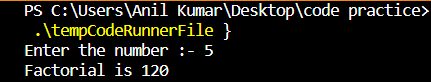
printf("Factorial is %d", result);

}

return 0;

}

**OUTPUT:-**

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**Q2.WRITE A PROGRAM TO FOR PRINTING THE STUDENT MARK SHEET USING STRUCTURE.**

#include <stdio.h>

struct Student {

    char name[50];

    int rollNumber;

    float marks[3];

};

float calculateTotalMarks(struct Student student) {

    return student.marks[0] + student.marks[1] + student.marks[2];

}

float calculatePercentage(struct Student student) {

    return (calculateTotalMarks(student) / 3.0);

}

void printMarkSheet(struct Student student) {

    printf("Student Name: %s\n", student.name);

    printf("Roll Number: %d\n", student.rollNumber);

    printf("Subject-wise Marks:\n");

    printf("  Subject 1: %.2f\n", student.marks[0]);

    printf("  Subject 2: %.2f\n", student.marks[1]);

    printf("  Subject 3: %.2f\n", student.marks[2]);

    printf("Total Marks: %.2f\n", calculateTotalMarks(student));

    printf("Percentage: %.2f%%\n", calculatePercentage(student));

}

int main() {

    struct Student student;

    printf("Enter student name: ");

    scanf("%s", student.name);

    printf("Enter roll number: ");

    scanf("%d", &student.rollNumber);

    printf("Enter marks for Subject 1: ");

    scanf("%f", &student.marks[0]);

    printf("Enter marks for Subject 2: ");

    scanf("%f", &student.marks[1]);

    printf("Enter marks for Subject 3: ");

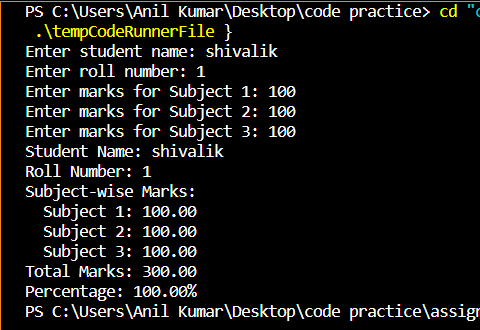
    scanf("%f", &student.marks[2]);

    printMarkSheet(student);

    return 0;

}

**Output:=**

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