**TITLE 23**

Write a C program to find factorial of number using recursion

**OBJECTIVE:**

By the end of this activity we will be able to use recursion for writing programs

**PROBLEM STATEMENT:**

In this problem we aim to calculate the factorial value of numbers using recursion. Input from the user:

Enter a number:

Once the data is collected and stored, the factorial value of the numbers is computed and the output is printed

**ALGORITHM:**

START

Define variables: n

INPUT: Read input from the keyboard

COMPUTATION: Compute the factorial of numbers

DISPLAY: Print factorial value as output

STOP

**PROGRAM:**

#include<stdio.h>  
   
long factorial(int);  
   
int main()  
{  
  int n;  
  long f;  
   
  printf("Enter a number: **\n**");  
  scanf("%d", &n);  
   
  if (n < 0)  
    printf("Factorial of negative integers isn't defined.**\n**");  
  else  
  {  
    f = factorial(n);  
    printf("%d! = %ld**\n**", n, f);  
  }  
   
  return 0;  
}

long factorial(int n)  
{  
  if (n == 0) *// Base case*  
    return 1;  
  else  
    return (n\*factorial(n-1));  
}

**CONCLUSION:**

The simulation of the above C program helped me to understand recursion which will help me to apply in other programs.

**OUTPUT:**

Enter a number:

4

4! = 24