Aim:

Write a program to find the ⎡factorial⎤ of a given number using recursion process.

At the time of execution, the program should print the message on the console as:

Enter an integer :

For example, if the user gives the **input** as:

Enter an integer : 6

then the program should **print** the result as:

Factorial of 6 is : 720

Note: Write the recursive function **factorial()** in ⎡Program901a.c⎤.

Source Code:

Program901.c

```c
#include <stdio.h>
#include "Program901a.c"
void main() {
    long int n;
    printf("Enter an integer : ");
    scanf("%ld", &n);
    printf("Factorial of %ld is : %ld\n", n ,factorial(n));
}
```

Program901a.c

```c
long int factorial(long int n);
long int factorial(long int n)
{
    if(n==0)
    return 1;
    else
    return(n*factorial(n-1));
}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Enter an integer : 5
Factorial of 5 is : 120

Test Case - 2

User Output
Enter an integer : 7
Factorial of 7 is : 5040

Test Case - 3

User Output
Enter an integer : 4
Factorial of 4 is : 24

Test Case - 4

User Output
Enter an integer : 8
Factorial of 8 is : 40320

Test Case - 5

User Output
Enter an integer : 0
Factorial of 0 is : 1

Test Case - 6

User Output
Enter an integer : 9
Factorial of 9 is : 362880