

Practical No.

Date :-

Aim :- Write a C program to calculate the factorial of 'n' numbers using the concept of Recursion.

Objective :- To study concept of recursion

Practical No.

Date :-

Aim :- Write a C Program to calculate the factorial of 'n' numbers using the concept of Recursion.

Objective :- To study concept of Recursion.

Theory :- Recursion is a programming and mathematical concept where a function call itself either directly to solve a smaller instance of Problem. It is a powerful & elegant technique that is widely used in various programming languages.

Program

code :- #include <stdio.h>

```
int fact(int n)
{
```

```
    if (n == 0)
    {
```

```
        return 1;
    }
```

```
    else
    {
```

```
        return (n * fact(n-1));
    }
```

```
}
```

```

void main ( )
{
    int num, f;
    printf("Enter any Number : \n");
    scanf("%d", &num);

    f = fact(num);

    printf("The Factorial of %d is %d",
           num, f);
}

```

Algorithm: Step 1: Start

Step 2: Read number num

Step 3: call factorial(int n)

Step 4: Print(factorial f)

Step 5: Stop

fact(int n)

Step 1: If  $n == 1$  then return 1

Step 2: Else

$f = n * \text{factorial}(n-1)$

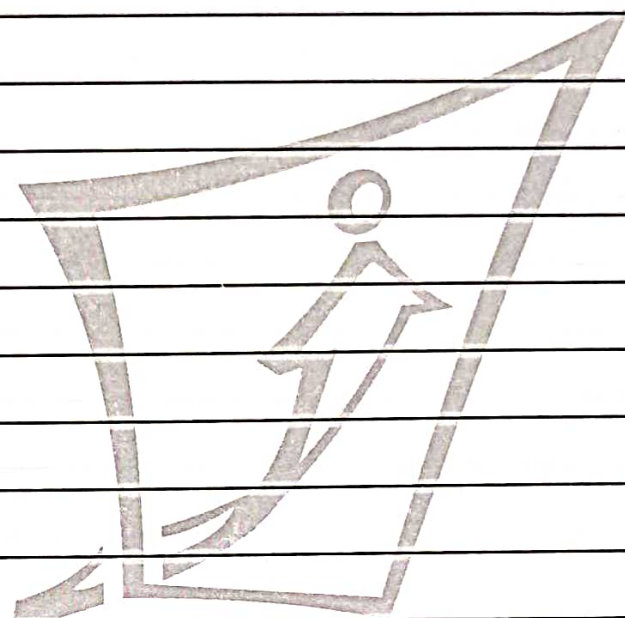
Step 3: Return f

Conclusion :- Hence according to given theory, the code & it's corresponding output are valid.



Output:- enter any number : 6  
The factorial of 6 is 720.

Conclusion:- Hence according to given theory, the code  
& it's corresponding output are valid.



ARISE & SHINE