



# FACTORIAL the recursive way

Problem

Submissions

Leaderboard

Discussions

Write a C program to find the factorial of a given number using a **recursive function**

Example of a recursive function :

[f](#) [t](#) [in](#)

Submissions: 36

Max Score: 10

Difficulty: Medium

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## How does recursion work?

```
void recurse()
{
    ... ..
    recurse();
    ... ..
}

int main()
{
    ... ..
    recurse();
    ... ..
}
```

Working of Recursion

The concept of recursion helps us solve certain problems in a simple way.

### Input Format

An integer

### Constraints

Use the concept of **recursion** to solve the problem

### Output Format

Prints the **factorial of a valid input number** else prints **ERROR**

*NB: a valid input number is greater than or equal to 0*

### Sample Input 0

5



### Sample Output 0



## Sample Input 1

7

## Sample Output 1

5040

Current Buffer (saved locally, editable)  

C  

```
1 #include <stdio.h>
2 #include <string.h>
3 #include <math.h>
4 #include <stdlib.h>
5 int factorial(int n)
6 {
7     int f=1,i;
8     if( n<0)
9     {
10         printf("ERROR");
11     }
12     else if(n==0)
13     {
14         printf("1");
15     }
16     else
17     {
18         for(i=1;i<=n;i++)
19         {
20             f=f*i;
21         }
22         printf("%d",f);
23     }
24     return 0;
25 }
26 int main()
27 {
28     int n;
29     scanf("%d",&n);
30     factorial(n);
31     return 0;
32 }
33
34 /* Enter your code here. Read input from STDIN. Print output to STDOUT */
35
36
37
```

Line: 37 Col: 1

 Upload Code as File ☐ Test against custom input

Run Code

Submit Code

Testcase 0 Testcase 1 **Congratulations, you passed the sample test case.**Click the **Submit Code** button to run your code against all the test cases.

Input (stdin)

5

Your Output (stdout)

120

Expected Output

120