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Objective

Today, we're learning and practicing an algorithmic concept called Recursion. Check out the Tutorial tab for learning materials and an instructional video!

Recursive Method for Calculating Factorial

$$factorial(N) = \begin{cases} 1 & N \leq 1 \\ N \times factorial(N-1) & otherwise \end{cases}$$

Write a factorial function that takes a positive integer, N as a parameter and prints the result of N! (N factorial).

Note: If you fail to use recursion or fail to name your recursive function factorial or Factorial, you will get a score of 0.

Input Format

A single integer, N (the argument to pass to factorial).

Constraints

- $2 \le N \le 12$
- Your submission must contain a recursive function named factorial.

Output Format

Print a single integer denoting N!

Sample Input

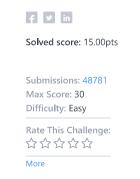
Sample Output

Explanation

Consider the following steps:

- 1. $factorial(3) = 3 \times factorial(2)$
- 2. $factorial(2) = 2 \times factorial(1)$
- 3. factorial(1) = 1

From steps 2 and 3, we can say $factorial(2) = 2 \times 1 = 2$; then when we apply the value from factorial(2) to step 1, we get $factorial(3) = 3 \times 2 \times 1 = 6$. Thus, we print 6 as our answer.



Need Help? Get advice from the discussion forum for this challenge. Or check out the environments page