**Objective**

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

**Recursive Method for Calculating Factorial**

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

**Task**

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**

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

**Output Format**

Print a single integer denoting $N!$.

**Sample Input**

3

**Sample Output**

6

**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.