

Extra Long Factorials ★

Rar

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The factorial of the integer n , written $n!$, is defined as:

$$n! = n \times (n - 1) \times (n - 2) \times \cdots \times 3 \times 2 \times 1$$

Calculate and print the factorial of a given integer.

For example, if $n = 30$, we calculate $30 \times 29 \times 28 \times \cdots \times 2 \times 1$ and get 265252859812191058636308480000000.

Function Description

Complete the extraLongFactorials function in the editor below. It should print the result and return.

extraLongFactorials has the following parameter(s):

- n : an integer

Note: Factorials of $n > 20$ can't be stored even in a 64-bit long long variable. Big integers must be used for such calculations. Languages like Java, Python, Ruby etc. can handle big integers, but we need to write additional code in C/C++ to handle huge values.

We recommend solving this challenge using BigIntegers.

Input Format

Input consists of a single integer n .

Constraints

$$1 \leq n \leq 100$$

Output Format

Print the factorial of n .

Sample Input

25

Sample Output

15511210043330985984000000

Explanation

$$25! = 25 \times 24 \times 23 \times \cdots \times 3 \times 2 \times 1$$