Security Encryption Scheme

An *encryption scheme* consists of a set $\{E_e : e \in K\}$ and a corresponding set $\{D_d : d \in K\}$ of encrypting and decrypting functions, respectively.
For each $e \in K$, there is a unique key $d \in K$ where $D_d = E_e^{-1}$.
An encryption scheme is also called a *cipher*.

It should be clear that every e is actually a representative of some bijection from M to C. In this task, you have to count the number of such bijections and, hence, the number of keys that produce different encryption functions.

Assume that $|M| = |C| = n$ which is given as the input.

Constraints

$1 \leq n \leq 10$

Input Format

The input consists of a single positive integer n.

Output Format

Output a single positive integer, the number of bijections.

Sample Input

```
3
```

Sample Output

```
6
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Explanation

Let us assume that $M = \{1, 2, 3\}$ and $C = \{3, 2, 1\}$.

We can have encryption schemes where 1 can be mapped to 3 or 2 or 1, 2 can be mapped to the remaining two, and 1 can be mapped to the unmapped one.

This accounts for $3 * 2 * 1 = 6$ such encryption functions.