Catalan Number

Question

1. You are given a number n.  
2. You are required to find the value of nth catalan number.  
C0 -> 1  
C1 -> 1  
C2 -> 2  
C3 -> 5  
..  
Cn -> C0.Cn-1 + C1.Cn-2 + .. + Cn-2.C1 + Cn-1.C0

Input Format

A number n

Output Format

A number representing the value of nth catalan number.

Constraints

0 <= n <= 15

Sample Input

4

Sample Output

14