Task seq

Write a program that reads positive integer *n* (*n* < 50) and displays the number of sequences of length n, consisting of '0' and '1' only, where no three '1' together.

Example
Input

3

Output

7

Explanation: The number of all possible sequences of '0' and '1' with length 3 is 8. Only one of them (it is '111') has 3 '1' in a subsequence.