In how many ways can you tile a $2 \times n$ rectangle by $2 \times 1$ or $2 \times 2$ tiles?
Here is a sample tiling of a $2 \times 17$ rectangle.


## Input

Input is a sequence of lines, each line containing an integer number $0 \leq n \leq 250$.

## Output

For each line of input, output one integer number in a separate line giving the number of possible tilings of a $2 \times n$ rectangle.

## Sample Input

2
8
12
100
200

## Sample Output

3
171
2731
845100400152152934331135470251
1071292029505993517027974728227441735014801995855195223534251

