Some sequences of bits (1)   P81826_en

Write a program that prints the number of sequences of length n made up of only zeros and ones that do not contain two consecutive zeros nor three consecutive ones.

For instance, there are 7 sequences for $n = 5$:

$$01010 \quad 01011 \quad 01101 \quad 10101 \quad 10110 \quad 11010 \quad 11011$$

Input

Input consists of several natural numbers n, each between 0 and 150.

Output

For every n, print the required number.

Sample input 1

```
0
1
2
3
5
150
```

Sample output 1

```
1
2
3
4
7
3495391431926239764
```

Problem information

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