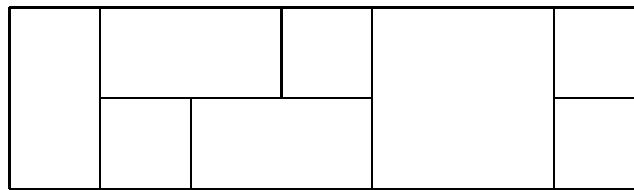

Horizontal puzzle

P74317_en

Examen final d'Algorismia, FME (2014-01-16)

Have an infinite collection of pieces 1×1 , 1×2 and 2×2 , and you must completely fill a $2 \times n$ rectangle. In how many ways can you do it?

For example, this is one of the many ways for $n = 7$:



Input

Input consists of several cases, each with an n between 1 and 10^4 .

Output

For every case, print the number of ways to fill a $2 \times n$ rectangle. Since this number can be very large, make the computations modulo $10^8 + 7$.

Observation

It may be helpful to compute a quantity similar to the one asked for in the problem.

Sample input

```
1
2
3
4
10000
```

Sample output

```
2
8
26
90
52273134
```

Problem information

Author : Salvador Roura

Translator : Salvador Roura

Generation : 2024-05-02 23:03:54

© Jutge.org, 2006–2024.

<https://jutge.org>