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## Nice partition

P22494\_en

Setzè Concurs de Programació de la UPC - Semifinal (2018-06-20)

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In this problem, we say that a partition of the numbers  $\{1, \dots, n\}$  is nice if

- it has at least two subsets,
- and every subset has at least two elements.

Additionally, we only consider partitions that are qualitatively different.

For instance, for  $n = 5$  we only have one nice partition:  $\{\{1, 2\}, \{3, 4, 5\}\}$ . Notice that  $\{\{1, 2, 3, 4, 5\}\}$  would not fulfil the first property above,  $\{\{2\}, \{1, 3, 4, 5\}\}$  would not fulfil the second property above, while  $\{\{2, 3\}, \{1, 4, 5\}\}$  would be basically the same partition as the only one given.

Given  $n$ , how many nice partitions do we have?

### Input

Input consists of several cases, each one with an  $n$  between 1 and  $3 \cdot 10^4$ .

### Output

For every  $n$ , print the number of nice partitions of  $\{1, \dots, n\}$  modulo  $10^8 + 7$ .

#### Sample input

```
3
5
6
10
114
30000
```

#### Sample output

```
0
1
3
11
674029
55250428
```

### Problem information

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