
Nice partition

P22494_en

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

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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