Paradoxical tests P89942_en

Consider the following test:

> What is the probability that if you choose at random one answer of this test, your answer will turn out to be correct?
>
> a) 2/5
>
> b) 3/5
>
> c) 3/5
>
> d) 2/5
>
> e) 3/5

As you can see, all answers above may be considered correct, but none of them is 1!

Given the number of answers n of a test, how many such paradoxical tests exist? Note that the order of the answers is relevant. For instance, a test with d) 3/5 and e) 2/5 would be considered different to the one above.

Input

Input consists of several cases, each one with a number n between 1 and 1000.

Output

For every n, print the number of paradoxical tests with n answers modulo 1006133.

Sample input 1

```
1
3
5
203
1000
```

Sample output 1

```
0
3
15
1006132
707988
```

Problem information

Author: Salvador Roura

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