Problem D:
Pisano Periods

Source file: `pisano.{c | cpp | java}`
Input file: `pisano.in`

The Fibonacci sequence is a well-known (and sometimes detested by students challenged to grasp recursion) numerical sequence:

0,1,1,2,3,5,8,13,21,...

What is less known about the sequence, is that if it is divided by an arbitrary number *N*, the sequence of remainders follows a pattern with a period *T* that depends on *N*. This period is called the Pisano period. For example, if *N*=4 we have *T*=6:

You task is to find the period of the sequence of remainders, given a number *N*.

Input

The input is made of a set of test cases for different numbers $1<N<=10^6$. Each *N* resides in a different line. The input ends with a test case for *N*=0.

Output

For each *N* you should output the corresponding Pisano period in a separate line.

Sample Input

```
4
5
6
0
```

Output for Sample Input

```
6
20
24
```