The sequence of Collatz   **P80660_en**

Let *n* be any strictly positive natural number. Consider the following process. If *n* is an even number, we divide it by two. Otherwise, we multiply it by 3 and add 1 to it. When we reach 1, we stop. For instance, starting with 3, we obtain the sequence

$$3, \ 10, \ 5, \ 16, \ 8, \ 4, \ 2, \ 1.$$

Since 1937 it is conjectured that this process ends for any initial *n*, although nobody has been able to prove it. In this problem, we do not ask you for a proof. You only have to write a program that prints the number of steps that it takes to reach 1 for every given *n*.

Input

Input consists of several natural numbers $n \geq 1$.

Output

For every *n*, print how many steps are needed to reach 1. Suppose that this number is well defined, that is, that the conjecture of the statement is true.

Sample input

```
3
1
40
```

Sample output

```
7
0
8
```

Problem information

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