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	Sample output
3 1 40	7 0 8

Problem information

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