The Collatz Sequence

An algorithm given by Lothar Collatz produces sequences of integers, and is described as follows:

Step 1: Choose an arbitrary positive integer A as the first item in the sequence.

Step 2: If $A = 1$ then stop.

Step 3: If A is even, then replace A by $A / 2$ and go to step 2.

Step 4: If A is odd, then replace A by $3 * A + 1$ and go to step 2.

It has been shown that this algorithm will always stop (in step 2) for initial values of A as large as 10^9. In this problem we want to determine the length of the sequence that includes all values produced until either the algorithm stops (in step 2).

Input

A number representing A (1 <= A <= 1,000,000,000).

Output

The length of the sequence generated by A.

Example

Input:
10

Output:
6

Explanation of sample input:

10 -> 5 -> 16 -> 8 -> 4 -> 2 -> 1 (the sequence is of length 6)