G • Simple Collatz Sequence

The Simple Collatz Sequence (SCS) starting at an integer \( n \), is defined by the formula:

\[
S(k) = \begin{cases} 
    k/2 & \text{if } k \text{ is even} \\
    k+1 & \text{else}
\end{cases}
\]

The sequence is then \( n, S(n), S(S(n)), \ldots \) until the value first reaches 1.

For example, starting at 11, we have:

\[
11 \rightarrow 12 \rightarrow 6 \rightarrow 3 \rightarrow 4 \rightarrow 2 \rightarrow 1
\]

The sequence always ends at 1. (Fun Fact: The Hard Collatz Sequence sends odd \( k \) to \( 3k+1 \). It is unknown whether that sequence always ends at 1.)

Let \( A(n) = \text{number of steps in the SCS starting at } n \). For example, \( A(11) = 6 \). Write a program which computes \( A(n) \) for a given input \( n \).

Input

Input consists of a single line which contains a positive decimal integer, \( n \), which starts the sequence. \( n \) will fit in a 32-bit unsigned integer.

Output

The output consists of a single line that contains the value of \( A(n) \), the number of steps in the SCS starting at \( n \).

Sample 1:

<table>
<thead>
<tr>
<th>Sample Input</th>
<th>Sample Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>6</td>
</tr>
</tbody>
</table>

Sample 2:

<table>
<thead>
<tr>
<th>Sample Input</th>
<th>Sample Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>123456789</td>
<td>39</td>
</tr>
</tbody>
</table>