

# Weird algorithm

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## Problem

### Statement

Consider an algorithm that takes as input a positive integer  $n$ . If  $n$  is even, the algorithm divides it by two, and if  $n$  is odd, the algorithm multiplies it by three and adds one. The algorithm repeats this, until  $n$  is one. For example, the sequence for  $n = 3$  is as follows:

$$3 \rightarrow 10 \rightarrow 5 \rightarrow 16 \rightarrow 8 \rightarrow 4 \rightarrow 2 \rightarrow 1$$

Your task is to simulate the execution of the algorithm for a given value of  $n$ .

### Input

The only input line contains an integer  $n$ .

### Output

Print a line that contains all values of  $n$  during the algorithm.

### Constraints

$$- 1 \leq n \leq 10^6$$

## Examples

Input:

3

Output:

3 10 5 16 8 4 2 1