Problem C. Collatz

Input file:	`standard input`
Output file:	`standard output`
Time limit:	`1s`
Balloon color:	`pink`

The Collatz conjecture is a conjecture in mathematics named after Lothar Collatz, who first proposed it in 1937. The conjecture is also known as the 3n + 1 conjecture.

The conjecture can be summarized as follows. Take any positive integer n. If n is even, divide it by 2 to get n / 2. If n is odd, multiply it by 3 and add 1 to obtain 3n + 1. Repeat the process indefinitely. The conjecture is that no matter what number you start with, you will always eventually reach 1.

If `n=22`, this process results in the following sequence:

```
22 11 34 17 52 26 13 40 20 10 5 16 8 4 2 1
```

Your task is given an integer *n,* print out the sequence that is taken to reach 1 from *n*, by following the Collatz conjecture.

Input

The first line contains two integers, *n*. (1≤ n≤ 1000)

Output

Print out the sequence that is taken to reach 1 from *n*, by following the Collatz conjecture, each integer in the sequence separated by a single space.

Example

Sample Input 1	Sample Output 1
22	22 11 34 17 52 26 13 40 20 10 5 16 8 4 2 1