

PA1 - ANOTHER - 9

Fcatron is an exoteric programming language.

A FACTRON programme is a list of fractions. In this problem you are going to use the following fractron programme.

[[455,33] , [11,13] , [3,7] , [11,2] , [1 , 3]]

You are given an integer n . Iterating through the list above from the start to the end. For each pair p

You check whether $(n * p[0])$ is a multiple of $p[1]$ and do the following.

- If yes then replace n by $n * p[0] / p[1]$ and go back to the beginning and repeat
- If the condition doesn't hold for any of the pairs, then stop

Develop a python program to take n as the input , simulate the above FACTRON program and output the number of times n changed and the last value of n .

Format

Input : An integer denoting the value of n

Output : Two integers separated by a space : The number of times n changed and the last value of n

Sample

Case 1

Input : 2

Output : 2 1

Explanation:

Here $n=2$ the first pair to satisfy the condition is [11,2]. Hence n becomes 11. Then the n satisfy the condition is [1,11]. Hence n becomes 1. For $n=1$, none of the pairs satisfy the condition and stop there. The changes of n : $2 \rightarrow 11 \rightarrow 1$. So n changed 2 times and the last value was 1.

Case 2

Input : 6

Output : 6 5

Explanation :

n is changed in the following pattern: $6 \rightarrow 33 \rightarrow 455 \rightarrow 385 \rightarrow 35 \rightarrow 15 \rightarrow 5$