

# Problem I. Prime Factorize

**Time limit** 1000 ms

**Mem limit** 131072 kB

**OS** Linux

## Prime Factorization

Factorize a given integer  $n$ .

### Input

$n$

An integer  $n$  is given in a line.

### Output

Print the given integer  $n$  and  $:$ . Then, print prime factors in ascending order. If  $n$  is divisible by a prime factor several times, the prime factor should be printed according to the number of times. Print a space before each prime factor.

### Constraints

- $2 \leq n \leq 10^9$

### Sample Input 1

12

### Sample Output 1

12: 2 2 3

### Sample Input 2

126

### Sample Output 2

126: 2 3 3 7