

Largest Prime Factor

Your task is to write a function that takes a number **N** and calculates its largest prime factor.

The prime factors of 330 are 2, 3, 5 and 11. Therefore 11 is the largest prime factor of 330.

Sample Example: $330 = 2 \times 3 \times 5 \times 11$

Input

The first line of input contains a number N.

Output

The first line contains its largest prime factor.

Sample input

Sample output

2	2
55	11
455	13