

Prime Factorization

Given a number n ($n \leq 10^{12}$) print all its prime factors in strictly ascending order. (Note each prime factor should be printed on a new line.)

Warning: Use long long int for taking input. Integer will overflow. The format specifier for long long int is %lld.

Example

Input:

60

Output:

2

3

5

Input:

100

Output:

2

5