A. k-Factorization

time limit per test

2 seconds

memory limit per test

256 megabytes

input

standard input

output

standard output

Given a positive integer *n*, find *k* integers (not necessary distinct) such that all these integers are strictly greater than 1, and their product is equal to *n*.

**Input**

The first line contains two integers *n* and *k* (2 ≤ *n* ≤ 100000, 1 ≤ *k* ≤ 20).

**Output**

If it's impossible to find the representation of *n* as a product of *k* numbers, print -1.

Otherwise, print *k* integers in any order. Their product must be equal to *n*. If there are multiple answers, print any of them.

**Examples**

**input**

100000 2

**output**

2 50000

**input**

100000 20

**output**

-1

**input**

1024 5

**output**

2 64 2 2 2