

# Sashko-Array Constructor

Input file:            `standard input`  
Output file:         `standard output`  
Time limit:          1 second  
Memory limit:       256 megabytes

You are given the numbers  $x$  and  $d$ . Your task is to find any array that simultaneously satisfies the following criteria:

- $a_1 \times a_2 \times \dots \times a_n = x$ , where  $n$  is the size of your array;
- $1 \leq a_i \leq d$  for each  $1 \leq i \leq n$ ;
- the size of the array is minimal possible.

## Input

The single line contains two integers  $x$  ( $2 \leq x \leq 10^9$ ) and  $d$  ( $2 \leq d \leq 10^9$ )

## Output

If such an array does not exist, then output “-1”.

Otherwise, in the first line, output the number  $n$  ( $1 \leq n \leq 1000$ ) — the minimal size of the array.

In the second line, output the numbers  $a_1, a_2, \dots, a_n$  ( $1 \leq a_i \leq d$ ), which satisfy the condition.

If there are multiple correct answers, any of them are allowed.

It can be shown that the length of the optimal array always satisfies the constraint.

## Scoring

In this problem, there are conditional blocks. If your solution works correctly for certain constraints, it will receive a certain number of points. Note that the evaluation is still in the testing phase.

- (37 points):  $x, d \leq 2 \cdot 10^5$ ;
- (63 points): without additional constraints.

## Examples

standard input	standard output
10 5	2 5 2
11 6	-1
120 6	3 5 4 6

## Note

In the first example,  $x = 10$  and  $d = 5$ . You need to find an array with a product of 10. The array “5,2” fits, because  $5 \times 2 = 10$  and each number is not greater than  $d$ . It is impossible to make an array of size one, because then the only element should be equal to  $x$ , and in this test  $x > d$ .