E. Divisors

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

Bizon the Champion isn't just friendly, he also is a rigorous coder.

Let's define function $f(a)$, where a is a sequence of integers. Function $f(a)$ returns the following sequence: first all divisors of a_1 go in the increasing order, then all divisors of a_2 go in the increasing order, and so on till the last element of sequence a. For example, $f([2, 9, 1]) = [1, 2, 1, 3, 9, 1]$.

Let's determine the sequence X_i, for integer i $(i \geq 0)$: $X_0 = [X]$ ($[X]$ is a sequence consisting of a single number X), $X_i = f(X_{i-1})$ $(i > 0)$. For example, at $X = 6$ we get $X_0 = [6]$, $X_1 = [1, 2, 3, 6]$, $X_2 = [1, 1, 2, 1, 3, 1, 2, 3, 6]$.

Given the numbers X and k, find the sequence X_k. As the answer can be rather large, find only the first 10^5 elements of this sequence.

Input

A single line contains two space-separated integers — X $(1 \leq X \leq 10^{12})$ and k $(0 \leq k \leq 10^{18})$.

Output

Print the elements of the sequence X_k in a single line, separated by a space. If the number of elements exceeds 10^5, then print only the first 10^5 elements.

Examples

input
6 1
output
1 2 3 6

input
4 2
output
1 1 2 1 2 4

input
10 3
output
1 1 1 2 1 1 5 1 1 2 1 5 1 2 5 10