Converting bases

There are lots of .base systems to represent numbers. Humans use decimal system to read and write numbers, computers use binary system to store numbers. In this problem, we are going to use base b.

Given integers n and b, please write a program that converts an integer n (given in decimal format) in base b.

Input

Your input consists of an arbitrary number of lines, but no more than 1,000.

Each line contains two integers n $(1 \leq n \leq 10^{18})$ and b $(2 \leq b \leq 10^{18})$.

The end of input is indicated by a line containing only the value -1.

Output

For each input line, print the number n written in base b. Each digit of the base-b representation of n should be written as an integer from 0 to $(b-1)$, and should be separated by a space. Refer to the examples for good understanding. The first integer for each output line should *not* be 0. (Do not print leading zeroes)

Example

Standard input	Standard output
17 2 17 8 19990121 1999 10000000000000000000 4391 -1	1 0 0 0 1 2 1 5 5 121 2689 4227 185 2713 386

Time Limit

1 second.