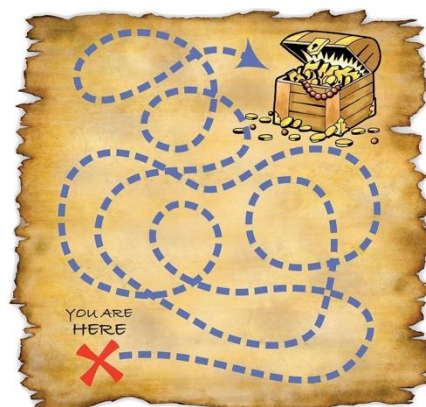# Problem L
Magic Lamp 3
Time Limit: 1 second

Well done! Now is the last quiz and the Genie will show you the great treasure.

You got a number n ($n > 1$). You are asked to decompose your lucky number into a product of multiple positive integers larger than 1. A decomposition of number n is a sequence of integers $a_1, a_2, \ldots, a_k$ in which:

$$a_i > 1 \text{ for all } 1 \le i \le k$$

$$\text{and } n = a_1 \times a_2 \times \ldots \times a_k \ (k \ge 1)$$

Two decompositions are considered different if the two corresponding sequences are different. Then, you need to sort all the decompositions in alphabetical order. For example, a number $n = 12$ has 8 ways to decompose which are sorted in the alphabetical order:

$$12 = 2 \times 2 \times 3$$
$$12 = 2 \times 3 \times 2$$
$$12 = 2 \times 6$$
$$12 = 3 \times 2 \times 2$$
$$12 = 3 \times 4$$
$$12 = 4 \times 3$$
$$12 = 6 \times 2$$
$$12 = 12$$

The sequences are counted from 1 after being sorted in alphabetical order.

Now, you will be given multiple number k. For each of the number k, you will need to find the the kth decomposition of your lucky number.

Input
The first line contains the number n ($2 \le n \le 10^{18}$)
In the next lines, each line contains a positive integer k.
The input ends with a line containing number 0.

Output
The first line contains the number of decompositions of n
With each number k which is larger than 0, output in one line the sequence which is the kth decomposition of n. It is guaranteed that the decomposition always exists.

Sample Input	Sample Output
12	8
2	2 3 2
4	3 2 2
6	4 3
8	12
0	