

PROBLEM:

A sequence of n distinct numbers $\langle 1, 2 \dots n \rangle$ is defined as an n -element combination. For example, the sequence $\langle 2, 1, 4, 5, 3 \rangle$ is a 5-element combination. We are interested in the increasing sub sequences of the longest length in a combination. In the given set they are of length 3 and there are exactly 2 such sub sequences: $\langle 2, 4, 5 \rangle$ and $\langle 1, 4, 5 \rangle$. A number belonging to any of the longest increasing sub sequences would be called a *magical number*. In the combination $\langle 2, 1, 4, 5, 3 \rangle$ the magical numbers are 1, 2, 4, 5 and 3 is not a magical number. Our aim is to determine all magical numbers for a given combination.

Write a program which reads a combination as input, and generates all its magical numbers as output.

INPUT:

The input should consist of the given combination i.e. the numbers separated by spaces.

OUTPUT:

For every sample input your program should write two lines. In the first line - the total number of magical numbers in the input combination. In the second line- all magical numbers separated by single spaces in increasing order.

EXAMPLE:

- Input:
2 1 4 5 3

Output:
4
1 2 4 5
- Input:
5 25 30 44 9 22 66

Output:
5
5 25 30 44 66
- Input:
9 42 7 36 29 11 10 16 30

Output:
6
7 9 10 11 16 30