Day 2 – Problem 2 – Wedding cakes

The chef at the Hotel Molika is famous for his wedding cakes. He makes them of several layers, out of round pieces with different diameters. To make them stable, he can only put a smaller piece on top of a bigger one. At his disposal he has a set of *n* round pieces. To make his life easier, he only wants to make as few as possible cakes. But he also wants his customers to be equally satisfied, so once he knows the minimal number of cakes, he wants to make them as equal as possible (with as equal number of layers as possible). This means that if you order the cakes by number of layers, the sum of differences of the number of layers between each two adjacent cakes will be minimal.

Input

The first line of the input contains a single integer $n \leq 10000$, the number of round pieces. The next *n* lines contain the diameter of the piece, each being an integer between 1 and 1000000.

Output

The first line contains one integer *m* - the minimal number of cakes that he will make. In the following *m* lines, one for each cake, output the sequence of diameters that makes the cake, starting with the smallest one.

Since there can be more than one solution for the sequences, any of them will be accepted.

Input	Output
6 1 1 2 2 2 3	3 1 2 1 2 2 3