

## Problem J. Jumbosort

Input file: *standard input*  
Output file: *standard output*  
Time limit: 1 second  
Memory limit: 1024 mebibytes

They are given  $N$  stones placed in a row. All stones have distinct integer weights between 1 and  $N$ , inclusive. The challenge is to arrange these stones from the lightest to the heaviest.

The elephant Jumbo in one operation can pull out any subset of stones from the row and put them back at the beginning of the row without changing their relative order.

For example, consider 5 stones in a row with weights  $[3, 1, 5, 4, 2]$ . If Jumbo selects the second and the fifth stones, he can transform our row to  $[1, 2, 3, 5, 4]$  in one operation.

Find the minimum number of operations Jumbo needs to sort the given row of stones by weight and also print one of the possible ways of optimal sorting.

### Input

The first line of the input contains the single integer  $N$  ( $1 \leq N \leq 10^5$ ). The second line contains  $N$  integers where  $i$ -th integer is the  $i$ -th stone weight. All weights are distinct integers between 1 and  $N$ , inclusive.

### Output

The first line should contain the integer  $M$  — the minimum number of operations. The following  $M + 1$  lines should contain  $N$  numbers each: the first one represents the initial row and all others represent a row after the corresponding operation.

### Examples

standard input	standard output
5 3 1 5 4 2	2 3 1 5 4 2 1 5 2 3 4 1 2 3 4 5
4 2 1 3 4	1 2 1 3 4 1 2 3 4