

GREATEST COMMON INCREASING SUBSEQUENCE

You are given two sequences of integer numbers. Write a program to determine their common increasing subsequence of maximal possible length.

Sequence S_1, S_2, \dots, S_N of length N is called an *increasing subsequence* of a sequence A_1, A_2, \dots, A_M of length M if there exist $1 \leq i_1 < i_2 < \dots < i_N \leq M$ such that $S_j = A_{i_j}$ for all $1 \leq j \leq N$, and $S_j < S_{j+1}$ for all $1 \leq j < N$.

Input

Each sequence is described with M — its length ($1 \leq M \leq 500$) and M integer numbers A_i ($-2^{31} \leq A_i < 2^{31}$) — the sequence itself.

Output

On the first line of the output file print L — the length of the greatest common increasing subsequence of both sequences. On the second line print the subsequence itself. If there are several possible answers, output any of them.

Examples

Nº	stdin	stdout
1	5 1 4 2 5 -12 4 -12 1 2 4	2 1 4