Problem B
Longest Monotonically Increasing Subsequence

Time limit: 1 second
Memory limit: 512 megabytes

Problem Description

Let $a_1, \ldots, a_n$ be a sequence of integers. $a_{i_1}, \ldots, a_{i_k}$ is a monotonically increaing subsequence of $a_1, \ldots, a_n$ if the following conditions are satisfied.

- $0 < i_1 < i_2 < \cdots < i_k \leq n$.
- $a_{i_1} < a_{i_2} < \cdots < a_{i_k}$

Your task is to find the longest monotonically increasing subsequence of a given sequence $a_1, \ldots, a_n$. In other words, your program should output a monotontically increasing subsequence $a_{i_1}, \ldots, a_{i_k}$ such that k is maximized. If there are multiple candidates, you may output any one of them. For example, let us assume the given sequence is `2,1,3,4,5`. You should output either `2,3,4,5` or `1,3,4,5`, since they are the only two longest monotonically increasing subsequences of `2,1,3,4,5`.

Input Format

The input is terminated by end-of-file, and there are at most 30 test cases. Each test case consists of two lines. The first line contains exactly one positive integer n indicating the length of the given sequence. The second line contains n integers $a_1, \ldots, a_n$ separated by blanks. You may assume that $n \leq 24$ and $a_1, \ldots, a_n \in \{0, \ldots, 99\}$.

Output Format

For each test case, output any longest monotonically increasing subsequence of $a_1, \ldots, a_n$. You should saparate the numbers by blanks.

Sample Input

```
5
2 1 3 4 5
5
2 1 3 4 5
5
1 2 3 4 5
5
5 4 3 2 1
```

Sample Output

```
1 3 4 5
2 3 4 5
1 2 3 4 5
2
```