Desordenado

Given a list $a = (a_1, \ldots, a_n)$ of n distinct integers, we say that a reordering (or permutation) $b = (b_1, \ldots, b_n)$ of the list a is *completely disordered* if every contiguous nonempty sublist of b is not equal to the sublist with the same indices of a but ordered. That is, if for all $1 \leq i \leq j \leq n$, the sequence of numbers $b_i, b_{i+1}, \ldots, b_j$ is not equal to the sequence of numbers $a_i, a_{i+1}, \ldots, a_j$ but ordered.

For example, given the list $(2, 5, 1, 4, 7)$, the permutation $(5, 7, 4, 2, 1)$ is completely unordered, but the permutations $(7, 1, 4, 5, 2)$ and $(7, 5, 4, 1, 2)$ are not: in the first case, the sublist with $i = 2$ and $j = 4$ $(1, 4, 5)$ coincides with the ordered $(5, 1, 4)$ sublist, in the second case the sublist with $i = 2$ and $j = 2$ (5) coincides with the ordered (5) sublist.

Given a list, you are asked to print a completely unordered permutation.

Input and output

The first line of the input contains the number of cases T.

For each case, the input has one line with an integer n, followed by a second line with n integers $a_1, \ldots, a_n$.

For each case, you must print a line with n integers, a completely unordered permutation of a. If there are several possible answers, you can print any of them.

Example

Input:

```
3
5
2 5 1 4 7
4
1 2 3 4
3
1 3 2
```
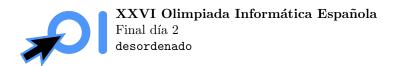
Output:

```
7 1 4 5 2
3 4 2 1
3 2 1
```

Constraints

$1 \leq T \leq 100$.

$3 \leq n \leq 100$.

$1 \leq a_i \leq 10^9$.

All a_i are distinct.

Subtasks

1. (37 points) $n \leq 8$.

2. (36 points) For all $1 \leq i \leq n$, $a_i = i$.

3. (27 points) No additional restrictions.