

---

## Problem A. Array in the Pocket

Input file:            **standard input**  
Output file:           **standard output**  
Time limit:            1 second  
Memory limit:         256 megabytes

BaoBao has just found an array  $A = \{a_1, a_2, \dots, a_n\}$  of  $n$  integers in his left pocket. As BaoBao is bored, he decides to rearrange it into another array  $B = \{b_1, b_2, \dots, b_n\}$  of  $n$  integers such that  $B$  is a permutation of  $A$ , and  $a_i \neq b_i$  for all  $1 \leq i \leq n$ . Please help BaoBao finish the rearrangement.

If multiple valid rearrangements exist, find the smallest one among them.

Consider two arrays  $C = \{c_1, c_2, \dots, c_n\}$  and  $D = \{d_1, d_2, \dots, d_n\}$ , we say  $C$  is smaller than  $D$  if there exists an integer  $k$  such that  $1 \leq k \leq n$ ,  $c_i = d_i$  for all  $1 \leq i < k$ , and  $c_k < d_k$ .

### Input

There are multiple test cases. The first line of the input contains an integer  $T$ , indicating the number of test cases. For each test case:

The first line contains an integer  $n$  ( $1 \leq n \leq 10^5$ ), indicating the length of the array.

The second line contains  $n$  integers  $a_1, a_2, \dots, a_n$  ( $1 \leq a_i \leq n$ ), indicating the given array.

### Output

For each test case output one line containing  $n$  integers  $b_1, b_2, \dots, b_n$  separated by a space, indicating the answer. If there are multiple valid answers, output the smallest one. If no valid answer exists, print "Impossible" (without quotes) instead.

Please, DO NOT output extra spaces at the end of each line, or your answer may be considered incorrect!

### Example

standard input	standard output
3	1 2 4 3
4	2 3 1 1
4 1 3 2	Impossible
4	
1 1 2 3	
3	
1 1 1	