

Depth of Post Order

Given a permutation of first N number. which is also a valid post-order traversal of a BST.
Find the deepest node in the tree.
Print the node and its depth. If there are multiple answer, print the node whose value is smallest.

Input :

First line will contain $T \leq 100$, number of test cases

First line of each test case in $N \leq 100000$.

Then N lines containing a single integer.

Output 2 integers separated by space.

Node value and Depth

Example

Input:

1
3
1
3
2

Output:

1 1

Input:

1
4
1
2
4
3

Output:

1 2