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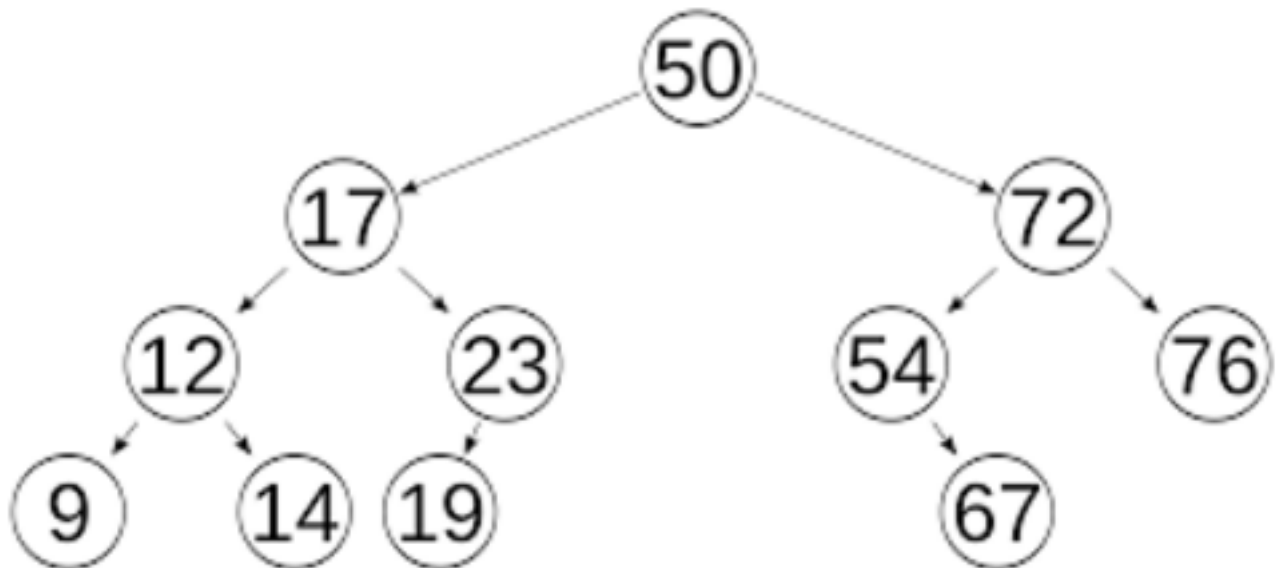
## DSA Lab 8 | Set 1 | RightBST

Input file:            **standard input**  
Output file:           **standard output**  
Time limit:            3 seconds  
Memory limit:          1024 megabytes

Given a set of unique integers representing pre-order traversal, create a binary-search tree (BST). The BST should support the following queries:

1. DeleteNode: Deletes the node with the given value. You may assume that a node with the given value exists in the tree.
2. PrintRightProfile: Gives right profile of the tree. A right profile of a binary tree gives the list of nodes, starting from the root, that may be visible when viewed from right side of the tree.

Consider the given binary search tree:



Right profile for this tree would be 50, 72, 76, 67.

### Input

The first line contains two space separated integers  $N$  and  $Q$ , indicating the number of nodes in the tree initially and number of queries respectively.

The second line contains  $N$  space separated integers ( $1 \leq \text{value} \leq N$ ), indicating the node values of the BST when traversed in pre-order.

The next  $Q$  lines indicate the query in each line. The query will be in the following format:

- 1 val : Where 1 indicates the DeleteNode query and value is an integer value of the node to delete.
- 2 : Where 2 indicates the PrintRightProfile query.

**Easy:**  $1 \leq N \leq 10$ ,  $1 \leq Q \leq 10$

**Advanced:**  $1 \leq N \leq 1000$ ,  $1 \leq Q \leq 1000$

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## Output

Output should contain an output for every Query number 2.

Query 2 should print single space separated integers indicating node values in right profile of the BST.

## Note

### Sample Input:

```
9 3
7 2 1 4 3 5 6 9 8
2
1 8
2
```

### Sample Output:

```
7 9 8 5 6
7 9 4 5 6
```

For deleting a node with two children, kindly use the minimum value in the right subtree.