Hello, **2024101067**.

BSTPractice

Submit solution

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Points: 100 (partial)
Time limit: 1.5s
Memory limit: 256M

Allowed languages
C

You are given an array `a` of `n` integers. Construct a Binary Search Tree with the insertion operation in the same order as values from the array.After constructing the BST, process different types of queries on this tree. The queries are described as follows:

Types of Queries

1. **Insertion**
   - **Syntax**: `1 x`
   - **Description**: Insert an integer `x` into the BST.
   - **-1e9 <= x <= 1e9**
2. **Left Query**
   - **Syntax**: `2 x`
   - **Description**: Find the number of nodes in the left subtree of `x`.
   - It is guaranteed that `x` is present in the BST.
3. **Right Query**
   - **Syntax**: `3 x`
   - **Description**: Find the number of nodes in the right subtree of `x`.
   - It is guaranteed that `x` is present in the BST.

Input Format

- The first line contains integers `n q`, seperated by a space ,the number of elements in the initial array and number of queries.
- The second line contains `n` space-separated integers, the elements of the array `a` to be used to

For each `2 x` and `3 x` queries, output a single line containing the number of nodes in the specified range.

Constraints

- **1 ≤ n,q ≤ 10000**
- **-1e9 <=a[i] <= 1e9**
- There is no repeated elements in the BST at any point.

Sample Testcases

Input Example 1

Copy

```
6 3
14 12 8 13 16 15
1 7
3 14
2 14
```

Output

Copy

```
2
4
```

Clarifications

Request clarification

No clarifications have been made at this time.