

2080. Range Frequency Queries

Description

Design a data structure to find the **frequency** of a given value in a given subarray.

The **frequency** of a value in a subarray is the number of occurrences of that value in the subarray.

Implement the `RangeFreqQuery` class:

- `RangeFreqQuery(int[] arr)` Constructs an instance of the class with the given **0-indexed** integer array `arr`.
- `int query(int left, int right, int value)` Returns the **frequency** of `value` in the subarray `arr[left...right]`.

A **subarray** is a contiguous sequence of elements within an array. `arr[left...right]` denotes the subarray that contains the elements of `nums` between indices `left` and `right` (**inclusive**).

Example 1:

Input

```
["RangeFreqQuery", "query", "query"]  
[[[12, 33, 4, 56, 22, 2, 34, 33, 22, 12, 34, 56]], [1, 2, 4], [0, 11, 33]]
```

Output

```
[null, 1, 2]
```

Explanation

```
RangeFreqQuery rangeFreqQuery = new RangeFreqQuery([12, 33, 4, 56, 22, 2, 34, 33, 22, 12, 34, 56]);  
rangeFreqQuery.query(1, 2, 4); // return 1. The value 4 occurs 1 time in the subarray [33, 4]  
rangeFreqQuery.query(0, 11, 33); // return 2. The value 33 occurs 2 times in the whole array.
```

Constraints:

- $1 \leq \text{arr.length} \leq 10^5$
- $1 \leq \text{arr}[i], \text{value} \leq 10^4$
- $0 \leq \text{left} \leq \text{right} < \text{arr.length}$
- At most 10^5 calls will be made to `query`

