Problem 3355: Zero Array Transformation I

Problem Information

Difficulty: Medium
Acceptance Rate: 54.37%
Paid Only: No
Tags: Array, Prefix Sum

Problem Description

You are given an integer array `nums` of length `n` and a 2D array `queries`, where `queries[i] = [li, ri]`.

For each `queries[i]`:

* Select a subset of indices within the range `[li, ri]` in `nums`. * Decrement the values at the selected indices by 1.

A **Zero Array** is an array where all elements are equal to 0.

Return `true` if it is _possible_ to transform `nums` into a **Zero Array** after processing all the queries sequentially, otherwise return `false`.

Example 1:

Input: nums = [1,0,1], queries = [[0,2]]

Output: true

Explanation:

* **For i = 0:** * Select the subset of indices as `[0, 2]` and decrement the values at these indices by 1. * The array will become `[0, 0, 0]`, which is a Zero Array.

Example 2:

Input: nums = [4,3,2,1], queries = [[1,3],[0,2]]

Output: false

Explanation:

* **For i = 0:** * Select the subset of indices as `[1, 2, 3]` and decrement the values at these indices by 1. * The array will become `[4, 2, 1, 0]`. * **For i = 1:** * Select the subset of indices as `[0, 1, 2]` and decrement the values at these indices by 1. * The array will become `[3, 1, 0, 0]`, which is not a Zero Array.

Constraints:

* `1 <= nums.length <= 105` * `0 <= nums[i] <= 105` * `1 <= queries.length <= 105` * `queries[i].length == 2` * `0 <= li <= ri < nums.length`

Code Snippets

C++:

```
class Solution {
public:
bool isZeroArray(vector<int>& nums, vector<vector<int>>& queries) {

}
};
```

Java:

```
class Solution {
public boolean isZeroArray(int[] nums, int[][] queries) {

}
}
```

Python3:

```
class Solution:
def isZeroArray(self, nums: List[int], queries: List[List[int]]) -> bool:
```