

Problem 3229: Minimum Operations to Make Array Equal to Target

Problem Information

Difficulty: Hard

Acceptance Rate: 40.96%

Paid Only: No

Tags: Array, Dynamic Programming, Stack, Greedy, Monotonic Stack

Problem Description

You are given two positive integer arrays `nums` and `target`, of the same length.

In a single operation, you can select any subarray of `nums` and increment each element within that subarray by 1 or decrement each element within that subarray by 1.

Return the **minimum** number of operations required to make `nums` equal to the array `target`.

Example 1:

Input: `nums = [3,5,1,2]`, `target = [4,6,2,4]`

Output: 2

Explanation:

We will perform the following operations to make `nums` equal to `target`:
1. Increment `nums[0..3]` by 1, `nums = [4,6,2,3]`.
2. Increment `nums[3..3]` by 1, `nums = [4,6,2,4]`.

Example 2:

Input: `nums = [1,3,2]`, `target = [2,1,4]`

Output: 5

****Explanation:****

We will perform the following operations to make `nums` equal to `target`: \- Increment `nums[0..0]` by 1, `nums = [2,3,2]`. \- Decrement `nums[1..1]` by 1, `nums = [2,2,2]`. \- Decrement `nums[1..1]` by 1, `nums = [2,1,2]`. \- Increment `nums[2..2]` by 1, `nums = [2,1,3]`. \- Increment `nums[2..2]` by 1, `nums = [2,1,4]`.

****Constraints:****

* `1 <= nums.length == target.length <= 105` * `1 <= nums[i], target[i] <= 108`

Code Snippets

C++:

```
class Solution {
public:
    long long minimumOperations(vector<int>& nums, vector<int>& target) {

    }
};
```

Java:

```
class Solution {
    public long minimumOperations(int[] nums, int[] target) {

    }
}
```

Python3:

```
class Solution:
    def minimumOperations(self, nums: List[int], target: List[int]) -> int:
```