Problem 3224: Minimum Array Changes to Make Differences Equal

Problem Information

Difficulty: Medium
Acceptance Rate: 23.92%
Paid Only: No
Tags: Array, Hash Table, Prefix Sum

Problem Description

You are given an integer array `nums` of size `n` where `n` is **even** , and an integer `k`.

You can perform some changes on the array, where in one change you can replace **any** element in the array with **any** integer in the range from `0` to `k`.

You need to perform some changes (possibly none) such that the final array satisfies the following condition:

* There exists an integer `X` such that `abs(a[i] - a[n - i - 1]) = X` for all `(0 <= i < n)`.

Return the **minimum** number of changes required to satisfy the above condition.

Example 1:

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

Output: 2

Explanation: We can perform the following changes:

* Replace `nums[1]` by 2. The resulting array is `nums = [1,_**2**_ ,1,2,4,3]`. * Replace `nums[3]` by 3. The resulting array is `nums = [1,2,1,_**3**_ ,4,3]`.

The integer `X` will be 2.

Example 2:

Input: nums = [0,1,2,3,3,6,5,4], k = 6

Output: 2

Explanation: We can perform the following operations:

* Replace `nums[3]` by 0. The resulting array is `nums = [0,1,2,_**0**_ ,3,6,5,4]`. * Replace `nums[4]` by 4. The resulting array is `nums = [0,1,2,0,**_4_** ,6,5,4]`.

The integer `X` will be 4.

Constraints:

* `2 <= n == nums.length <= 105` * `n` is even. * `0 <= nums[i] <= k <= 105`

Code Snippets

C++:

```
class Solution {
public:
int minChanges(vector<int>& nums, int k) {

}
};
```

Java:

```
class Solution {
public int minChanges(int[] nums, int k) {

}
}
```

Python3:

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