Problem 2333: Minimum Sum of Squared Difference

Problem Information

Difficulty: Medium
Acceptance Rate: 26.29%
Paid Only: No
Tags: Array, Binary Search, Greedy, Sorting, Heap (Priority Queue)

Problem Description

You are given two positive **0-indexed** integer arrays `nums1` and `nums2`, both of length `n`.

The **sum of squared difference** of arrays `nums1` and `nums2` is defined as the **sum** of `(nums1[i] - nums2[i])2` for each `0 <= i < n`.

You are also given two positive integers `k1` and `k2`. You can modify any of the elements of `nums1` by `+1` or `-1` at most `k1` times. Similarly, you can modify any of the elements of `nums2` by `+1` or `-1` at most `k2` times.

Return _the minimum**sum of squared difference** after modifying array _`nums1` _at most_`k1` _times and modifying array_`nums2` _at most_`k2` _times_.

Note : You are allowed to modify the array elements to become **negative** integers.

Example 1:

Input: nums1 = [1,2,3,4], nums2 = [2,10,20,19], k1 = 0, k2 = 0 **Output:** 579
Explanation: The elements in nums1 and nums2 cannot be modified because k1 = 0 and k2 = 0. The sum of square difference will be: (1 - 2)2 + (2 - 10)2 + (3 - 20)2 + (4 - 19)2 = 579.

Example 2:

Input: nums1 = [1,4,10,12], nums2 = [5,8,6,9], k1 = 1, k2 = 1 **Output:** 43
Explanation: One way to obtain the minimum sum of square difference is: - Increase

nums1[0] once. - Increase nums2[2] once. The minimum of the sum of square difference will be: (2 - 5)2 + (4 - 8)2 + (10 - 7)2 + (12 - 9)2 = 43. Note that, there are other ways to obtain the minimum of the sum of square difference, but there is no way to obtain a sum smaller than 43.

Constraints:

* `n == nums1.length == nums2.length` * `1 <= n <= 105` * `0 <= nums1[i], nums2[i] <= 105` * `0 <= k1, k2 <= 109`

Code Snippets

C++:

```
class Solution {
public:
long long minSumSquareDiff(vector<int>& nums1, vector<int>& nums2, int k1,
int k2) {

}
};
```

Java:

```
class Solution {
public long minSumSquareDiff(int[] nums1, int[] nums2, int k1, int k2) {

}
}
```

Python3:

```
class Solution:
def minSumSquareDiff(self, nums1: List[int], nums2: List[int], k1: int, k2:
int) -> int:
```