Problem 2613: Beautiful Pairs

Problem Information

Difficulty: Hard
Acceptance Rate: 49.40%
Paid Only: Yes
Tags: Array, Math, Divide and Conquer, Geometry, Sorting, Ordered Set

Problem Description

You are given two **0-indexed** integer arrays `nums1` and `nums2` of the same length. A pair of indices `(i,j)` is called **beautiful** if`|nums1[i] - nums1[j]| + |nums2[i] - nums2[j]|` is the smallest amongst all possible indices pairs where `i < j`.

Return _the beautiful pair. In the case that there are multiple beautiful pairs, return the lexicographically smallest pair._

Note that

* `|x|` denotes the absolute value of `x`. * A pair of indices `(i1, j1)` is lexicographically smaller than `(i2, j2)` if `i1 < i2` or `i1 == i2` and `j1 < j2`.

Example 1:

Input: nums1 = [1,2,3,2,4], nums2 = [2,3,1,2,3] **Output:** [0,3] **Explanation:** Consider index 0 and index 3. The value of |nums1[i]-nums1[j]| + |nums2[i]-nums2[j]| is 1, which is the smallest value we can achieve.

Example 2:

Input: nums1 = [1,2,4,3,2,5], nums2 = [1,4,2,3,5,1] **Output:** [1,4] **Explanation:** Consider index 1 and index 4. The value of |nums1[i]-nums1[j]| + |nums2[i]-nums2[j]| is 1, which is the smallest value we can achieve.

Constraints:

* `2 <= nums1.length, nums2.length <= 105` * `nums1.length == nums2.length` * `0 <= nums1i <= nums1.length` * `0 <= nums2i <= nums2.length`

Code Snippets

C++:

```
class Solution {
public:
vector<int> beautifulPair(vector<int>& nums1, vector<int>& nums2) {

}
};
```

Java:

```
class Solution {
public int[] beautifulPair(int[] nums1, int[] nums2) {

}
}
```

Python3:

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