2613. Beautiful Pairs Premium

Hard   🏷 Topics   💡 Hint

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 $i_1 < i_2$ or $i_1 == i_2$ and $j_1 < j_2$.

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:

- $2 <= nums1.length, nums2.length <= 10^5$
- `nums1.length == nums2.length`
- $0 <= nums1_i <= nums1.length$
- $0 <= nums2_i <= nums2.length$

Seen this question in a real interview before?   1/5

Yes   No

Accepted **581** | Submissions **1.4K** | Acceptance Rate **42.8%**

🏷 Topics   ⌃

Array   Math   Divide and Conquer   Geometry   Sorting   Ordered Set

💡 Hint 1   ⌃

Use Range Queries Data Structures to optimize the algorithm

💬 Discussion (1)   ⌄