1983. Widest Pair of Indices With Equal Range Sum Premium

Medium | Topics | Companies | Hint

You are given two **0-indexed** binary arrays `nums1` and `nums2`. Find the **widest** pair of indices `(i, j)` such that `i <= j` and `nums1[i] + nums1[i+1] + ... + nums1[j] == nums2[i] + nums2[i+1] + ... + nums2[j]`.

The **widest** pair of indices is the pair with the **largest distance** between `i` and `j`. The **distance** between a pair of indices is defined as `j - i + 1`.

Return *the **distance** of the **widest** pair of indices. If no pair of indices meets the conditions, return* `0`.

Example 1:

```
Input: nums1 = [1,1,0,1], nums2 = [0,1,1,0]
Output: 3
Explanation:
If i = 1 and j = 3:
nums1[1] + nums1[2] + nums1[3] = 1 + 0 + 1 = 2.
nums2[1] + nums2[2] + nums2[3] = 1 + 1 + 0 = 2.
The distance between i and j is j - i + 1 = 3 - 1 + 1 = 3.
```

Example 2:

```
Input: nums1 = [0,1], nums2 = [1,1]
Output: 1
Explanation:
If i = 1 and j = 1:
nums1[1] = 1.
nums2[1] = 1.
The distance between i and j is j - i + 1 = 1 - 1 + 1 = 1.
```

Example 3:

```
Input: nums1 = [0], nums2 = [1]
Output: 0
Explanation:
There are no pairs of indices that meet the requirements.
```

Constraints:

- `n == nums1.length == nums2.length`
- `1 <= n <= 10^5`
- `nums1[i]` is either `0` or `1`.
- `nums2[i]` is either `0` or `1`.

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

Yes No

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Topics

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Companies

0 - 6 months

Microsoft 2

Hint 1

Keep prefix sums of both arrays.

Hint 2

Can the difference between the prefix sums at an index help us?

Hint 3

What happens if the difference between the two prefix sums at an index a is x, and x again at a different index b?

Hint 4

This means that the sum of nums1 from index a + 1 to index b is equal to the sum of nums2 from index a + 1 to index b.

Discussion (3)