6416. Find the Distinct Difference Array

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Difficulty:	Easy

You are given a **0-indexed** array `nums` of length `n`.

The **distinct difference** array of `nums` is an array `diff` of length `n` such that `diff[i]` is equal to the number of distinct elements in the suffix `nums[i + 1, ..., n - 1]` **subtracted from** the number of distinct elements in the prefix `nums[0, ..., i]`.

Return *the **distinct difference** array of* `nums`.

Note that `nums[i, ..., j]` denotes the subarray of `nums` starting at index `i` and ending at index `j` inclusive. Particularly, if `i > j` then `nums[i, ..., j]` denotes an empty subarray.

Example 1:

```
Input: nums = [1,2,3,4,5]
Output: [-3,-1,1,3,5]
Explanation: For index i = 0, there is 1 element in the prefix and 4 distinct elements in the suffix. Thus, diff[0] = 1 - 4
For index i = 1, there are 2 distinct elements in the prefix and 3 distinct elements in the suffix. Thus, diff[1] = 2 - 3 =
For index i = 2, there are 3 distinct elements in the prefix and 2 distinct elements in the suffix. Thus, diff[2] = 3 - 2 =
For index i = 3, there are 4 distinct elements in the prefix and 1 distinct element in the suffix. Thus, diff[3] = 4 - 1 = 3
For index i = 4, there are 5 distinct elements in the prefix and no elements in the suffix. Thus, diff[4] = 5 - 0 = 5.
```

Example 2:

```
Input: nums = [3,2,3,4,2]
Output: [-2,-1,0,2,3]
Explanation: For index i = 0, there is 1 element in the prefix and 3 distinct elements in the suffix. Thus, diff[0] = 1 - 3
For index i = 1, there are 2 distinct elements in the prefix and 3 distinct elements in the suffix. Thus, diff[1] = 2 - 3 =
For index i = 2, there are 2 distinct elements in the prefix and 2 distinct elements in the suffix. Thus, diff[2] = 2 - 2 =
For index i = 3, there are 3 distinct elements in the prefix and 1 distinct element in the suffix. Thus, diff[3] = 3 - 1 = 2
For index i = 4, there are 3 distinct elements in the prefix and no elements in the suffix. Thus, diff[4] = 3 - 0 = 3.
```

Constraints:

- `1 <= n == nums.length <= 50`
- `1 <= nums[i] <= 50`

JavaScript

```javascript
const distinctDifferenceArray = (a) => {
    let n = a.length, res = [];
    a.map((x, i) => {
        let pre = new Set(), suf = new Set();
        for (let j = 0; j <= i; j++) pre.add(a[j]);
        for (let k = i + 1; k < n; k++) suf.add(a[k]);
        res.push(pre.size - suf.size);
    });
    return res;
};
```

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