2261. K Divisible Elements Subarrays

Medium ⚠ 255 ♀ 101 ♡ Add to List ☐ Share

Given an integer array nums and two integers k and p, return the number of **distinct subarrays** which have elements divisible by p.

Two arrays nums1 and nums2 are said to be distinct if:

- They are of different lengths, or
- There exists at least one index i where nums1[i] != nums2[i].

A **subarray** is defined as a **non-empty** contiguous sequence of elements in an array.

Example 1:

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Input: nums = [2,3,3,2,2], k = 2, p = 2

Output: 11

Explanation:

The elements at indices 0, 3, and 4 are divisible by p = 2.

The 11 distinct subarrays which have at most k = 2 elements divisible by 2 are:

[2], [2,3], [2,3,3], [2,3,3,2], [3], [3,3], [3,3,2], [3,3,2,2], [3,2], [3,2,2], and [2,2].

Note that the subarrays [2] and [3] occur more than once in nums, but they should each be counted the subarray [2,3,3,2,2] should not be counted because it has 3 elements that are divisible by 2
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Example 2:

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Input: nums = [1,2,3,4], k = 4, p = 1
Output: 10
Explanation:
All element of nums are divisible by p = 1.
Also, every subarray of nums will have at most 4 elements that are divisible by 1.
Since all subarrays are distinct, the total number of subarrays satisfying all the constraints i
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Constraints:

- 1 <= nums.length <= 200
- 1 <= nums[i], p <= 200
- 1 <= k <= nums.length