

2183. Count Array Pairs Divisible by K

Description

Given a 0-indexed integer array `nums` of length `n` and an integer `k`, return *the number of pairs* `(i, j)` *such that:*

- `0 ≤ i < j ≤ n - 1` *and*
- `nums[i] * nums[j]` *is divisible by* `k`.

Example 1:

Input: `nums = [1,2,3,4,5]`, `k = 2`

Output: 7

Explanation:

The 7 pairs of indices whose corresponding products are divisible by 2 are `(0, 1)`, `(0, 3)`, `(1, 2)`, `(1, 3)`, `(1, 4)`, `(2, 3)`, and `(3, 4)`.

Their products are 2, 4, 6, 8, 10, 12, and 20 respectively.

Other pairs such as `(0, 2)` and `(2, 4)` have products 3 and 15 respectively, which are not divisible by 2.

Example 2:

Input: `nums = [1,2,3,4]`, `k = 5`

Output: 0

Explanation: There does not exist any pair of indices whose corresponding product is divisible by 5.

Constraints:

- `1 ≤ nums.length ≤ 105`
- `1 ≤ nums[i], k ≤ 105`

