



2198. Number of Single Divisor Triplets Premium

Medium  Topics  Hint

You are given a **0-indexed** array of positive integers `nums`. A triplet of three **distinct** indices `(i, j, k)` is called a **single divisor triplet** of `nums` if `nums[i] + nums[j] + nums[k]` is divisible by **exactly one** of `nums[i]`, `nums[j]`, or `nums[k]`.

Return *the number of **single divisor triplets** of `nums`*.

Example 1:

Input: `nums = [4,6,7,3,2]`
Output: `12`
Explanation:
The triplets `(0, 3, 4)`, `(0, 4, 3)`, `(3, 0, 4)`, `(3, 4, 0)`, `(4, 0, 3)`, and `(4, 3, 0)` have the values of `[4, 3, 2]` (or a permutation of `[4, 3, 2]`).
`4 + 3 + 2 = 9` which is only divisible by 3, so all such triplets are single divisor triplets.
The triplets `(0, 2, 3)`, `(0, 3, 2)`, `(2, 0, 3)`, `(2, 3, 0)`, `(3, 0, 2)`, and `(3, 2, 0)` have the values of `[4, 7, 3]` (or a permutation of `[4, 7, 3]`).
`4 + 7 + 3 = 14` which is only divisible by 7, so all such triplets are single divisor triplets.
There are 12 single divisor triplets in total.

Example 2:

Input: `nums = [1,2,2]`
Output: `6`
Explanation:
The triplets `(0, 1, 2)`, `(0, 2, 1)`, `(1, 0, 2)`, `(1, 2, 0)`, `(2, 0, 1)`, and `(2, 1, 0)` have the values of `[1, 2, 2]` (or a permutation of `[1, 2, 2]`).
`1 + 2 + 2 = 5` which is only divisible by 1, so all such triplets are single divisor triplets.
There are 6 single divisor triplets in total.

Example 3:

Input: `nums = [1,1,1]`
Output: `0`
Explanation:
There are no single divisor triplets.
Note that `(0, 1, 2)` is not a single divisor triplet because `nums[0] + nums[1] + nums[2] = 3` and 3 is divisible by `nums[0]`, `nums[1]`, and `nums[2]`.

Constraints:

- `3 <= nums.length <= 105`
- `1 <= nums[i] <= 100`

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

Yes No

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Topics

Math

Hint 1

The maximum value of `nums.length` is very large, but the maximum value of `nums[i]` is not.

Hint 2

Count the number of times each value appears in `nums`. Brute force through every possible combination of values and count how many single divisor triplets can be made with that combination of values.

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