Problem 2644: Find the Maximum Divisibility Score

Problem Information

Difficulty: Easy
Acceptance Rate: 51.02%
Paid Only: No
Tags: Array

Problem Description

You are given two integer arrays `nums` and `divisors`.

The **divisibility score** of `divisors[i]` is the number of indices `j` such that `nums[j]` is divisible by `divisors[i]`.

Return the integer `divisors[i]` with the **maximum** divisibility score. If multiple integers have the maximum score, return the smallest one.

Example 1:

Input: nums = [2,9,15,50], divisors = [5,3,7,2]

Output: 2

Explanation:

The divisibility score of `divisors[0]` is 2 since `nums[2]` and `nums[3]` are divisible by 5.

The divisibility score of `divisors[1]` is 2 since `nums[1]` and `nums[2]` are divisible by 3.

The divisibility score of `divisors[2]` is 0 since none of the numbers in `nums` is divisible by 7.

The divisibility score of `divisors[3]` is 2 since `nums[0]` and `nums[3]` are divisible by 2.

As `divisors[0]`, `divisors[1]`, and `divisors[3]` have the same divisibility score, we return the smaller one which is `divisors[3]`.

Example 2:

Input: nums = [4,7,9,3,9], divisors = [5,2,3]

Output: 3

Explanation:

The divisibility score of `divisors[0]` is 0 since none of numbers in `nums` is divisible by 5.

The divisibility score of `divisors[1]` is 1 since only `nums[0]` is divisible by 2.

The divisibility score of `divisors[2]` is 3 since `nums[2]`, `nums[3]` and `nums[4]` are divisible by 3.

Example 3:

Input: nums = [20,14,21,10], divisors = [10,16,20]

Output: 10

Explanation:

The divisibility score of `divisors[0]` is 2 since `nums[0]` and `nums[3]` are divisible by 10.

The divisibility score of `divisors[1]` is 0 since none of the numbers in `nums` is divisible by 16.

The divisibility score of `divisors[2]` is 1 since `nums[0]` is divisible by 20.

Constraints:

* `1 <= nums.length, divisors.length <= 1000` * `1 <= nums[i], divisors[i] <= 109`

Code Snippets

C++:

```
class Solution {
public:
int maxDivScore(vector<int>& nums, vector<int>& divisors) {

}
};
```

Java:

```
class Solution {
public int maxDivScore(int[] nums, int[] divisors) {

}
}
```

Python3:

```
class Solution:
def maxDivScore(self, nums: List[int], divisors: List[int]) -> int:
```