Problem 2740: Find the Value of the Partition

Problem Information

Difficulty: Medium
Acceptance Rate: 64.64%
Paid Only: No
Tags: Array, Sorting

Problem Description

You are given a **positive** integer array `nums`.

Partition `nums` into two arrays, `nums1` and `nums2`, such that:

* Each element of the array `nums` belongs to either the array `nums1` or the array `nums2`. * Both arrays are **non-empty**. * The value of the partition is **minimized**.

The value of the partition is `|max(nums1) - min(nums2)|`.

Here, `max(nums1)` denotes the maximum element of the array `nums1`, and `min(nums2)` denotes the minimum element of the array `nums2`.

Return _the integer denoting the value of such partition_.

Example 1:

Input: nums = [1,3,2,4] **Output:** 1 **Explanation:** We can partition the array nums into nums1 = [1,2] and nums2 = [3,4]. - The maximum element of the array nums1 is equal to 2. - The minimum element of the array nums2 is equal to 3. The value of the partition is |2 - 3| = 1. It can be proven that 1 is the minimum value out of all partitions.

Example 2:

Input: nums = [100,1,10] **Output:** 9 **Explanation:** We can partition the array nums into nums1 = [10] and nums2 = [100,1]. - The maximum element of the array nums1 is equal to 10. - The minimum element of the array nums2 is equal to 1. The value of the partition is

|10 - 1| = 9. It can be proven that 9 is the minimum value out of all partitions.

Constraints:

* `2 <= nums.length <= 105` * `1 <= nums[i] <= 109`

Code Snippets

C++:

```
class Solution {
public:
int findValueOfPartition(vector<int>& nums) {

}
};
```

Java:

```
class Solution {
public int findValueOfPartition(int[] nums) {

}
}
```

Python3:

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