Problem 2905: Find Indices With Index and Value Difference II

Problem Information

Difficulty: Medium
Acceptance Rate: 32.33%
Paid Only: No
Tags: Array, Two Pointers

Problem Description

You are given a **0-indexed** integer array `nums` having length `n`, an integer `indexDifference`, and an integer `valueDifference`.

Your task is to find **two** indices `i` and `j`, both in the range `[0, n - 1]`, that satisfy the following conditions:

* `abs(i - j) >= indexDifference`, and * `abs(nums[i] - nums[j]) >= valueDifference`

Return _an integer array_ `answer`, _where_ `answer = [i, j]` _if there are two such indices_ , _and_ `answer = [-1, -1]` _otherwise_. If there are multiple choices for the two indices, return _any of them_.

Note: `i` and `j` may be **equal**.

Example 1:

Input: nums = [5,1,4,1], indexDifference = 2, valueDifference = 4 **Output:** [0,3] **Explanation:** In this example, i = 0 and j = 3 can be selected. abs(0 - 3) >= 2 and abs(nums[0] - nums[3]) >= 4. Hence, a valid answer is [0,3]. [3,0] is also a valid answer.

Example 2:

Input: nums = [2,1], indexDifference = 0, valueDifference = 0 **Output:** [0,0] **Explanation:** In this example, i = 0 and j = 0 can be selected. abs(0 - 0) >= 0 and abs(nums[0] - nums[0]) >= 0. Hence, a valid answer is [0,0]. Other valid answers are [0,1],

[1,0], and [1,1].

Example 3:

Input: nums = [1,2,3], indexDifference = 2, valueDifference = 4 **Output:** [-1,-1] **Explanation:** In this example, it can be shown that it is impossible to find two indices that satisfy both conditions. Hence, [-1,-1] is returned.

Constraints:

* `1 <= n == nums.length <= 105` * `0 <= nums[i] <= 109` * `0 <= indexDifference <= 105` * `0 <= valueDifference <= 109`

Code Snippets

C++:

```
class Solution {
public:
vector<int> findIndices(vector<int>& nums, int indexDifference, int
valueDifference) {

}
};
```

Java:

```
class Solution {
public int[] findIndices(int[] nums, int indexDifference, int
valueDifference) {

}
}
```

Python3:

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