Problem 334: Increasing Triplet Subsequence

Problem Information

Difficulty: Medium
Acceptance Rate: 39.14%
Paid Only: No
Tags: Array, Greedy

Problem Description

Given an integer array `nums`, return `true` _if there exists a triple of indices_`(i, j, k)`_such that_`i < j < k` _and_`nums[i] < nums[j] < nums[k]`. If no such indices exists, return `false`.

Example 1:

Input: nums = [1,2,3,4,5] **Output:** true **Explanation:** Any triplet where i < j < k is valid.

Example 2:

Input: nums = [5,4,3,2,1] **Output:** false **Explanation:** No triplet exists.

Example 3:

Input: nums = [2,1,5,0,4,6] **Output:** true **Explanation:** One of the valid triplet is (1, 4, 5), because nums[1] == 1 < nums[4] == 4 < nums[5] == 6.

Constraints:

* `1 <= nums.length <= 5 * 105` * `-231 <= nums[i] <= 231 - 1`

Follow up: Could you implement a solution that runs in `O(n)` time complexity and `O(1)` space complexity?

Code Snippets

C++:

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

}
};
```

Java:

```
class Solution {
public boolean increasingTriplet(int[] nums) {

}
}
```

Python3:

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