# 334. Increasing Triplet Subsequence

## 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: The triplet (3, 4, 5) is valid because nums[3] == 0 < nums[4] == 4 < nums[5] == 6.
```

### Constraints:

- `1 <= nums.length <= 5 * 10^5`
- `-2^31 <= nums[i] <= 2^31 - 1`

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