300. Longest Increasing Subsequence

Given an integer array nums, return the length of the longest strictly increasing subsequence.

Example 1:

- **Input:** nums = [10,9,2,5,3,7,101,18]
- **Output:** 4
- **Explanation:** The longest increasing subsequence is [2,3,7,101], therefore the length is 4.

Example 2:

- **Input:** nums = [0,1,0,3,2,3]
- **Output:** 4

Example 3:

- **Input:** nums = [7,7,7,7,7,7,7]
- **Output:** 1

Constraints:

- 1 <= nums.length <= 2500
- -10^4 <= nums[i] <= 10^4

Follow up: Can you come up with an algorithm that runs in O(n log(n)) time complexity?