300. Longest Increasing Subsequence

Difficulty : Medium

https://leetcode.com/problems/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?