977. Squares of a Sorted Array

Description

Given an integer array `nums` sorted in **non-decreasing** order, return *an array of* ***the squares of each number*** *sorted in non-decreasing order*.

Example 1:

```
Input: nums = [-4,-1,0,3,10]
Output: [0,1,9,16,100]
Explanation: After squaring, the array becomes [16,1,0,9,100].
After sorting, it becomes [0,1,9,16,100].
```

Example 2:

```
Input: nums = [-7,-3,2,3,11]
Output: [4,9,9,49,121]
```

Constraints:

- `1 <= nums.length <= 10^4`
- `-10^4 <= nums[i] <= 10^4`
- `nums` is sorted in **non-decreasing** order.

Follow up: Squaring each element and sorting the new array is very trivial, could you find an `O(n)` solution using a different approach?