

# 977. Squares of a Sorted Array

Easy

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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 <= 104`
- `-104 <= nums[i] <= 104`
- `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?

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Yes

No

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