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977. Squares of a Sorted Array

Solved

Easy | Topics | Companies

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:

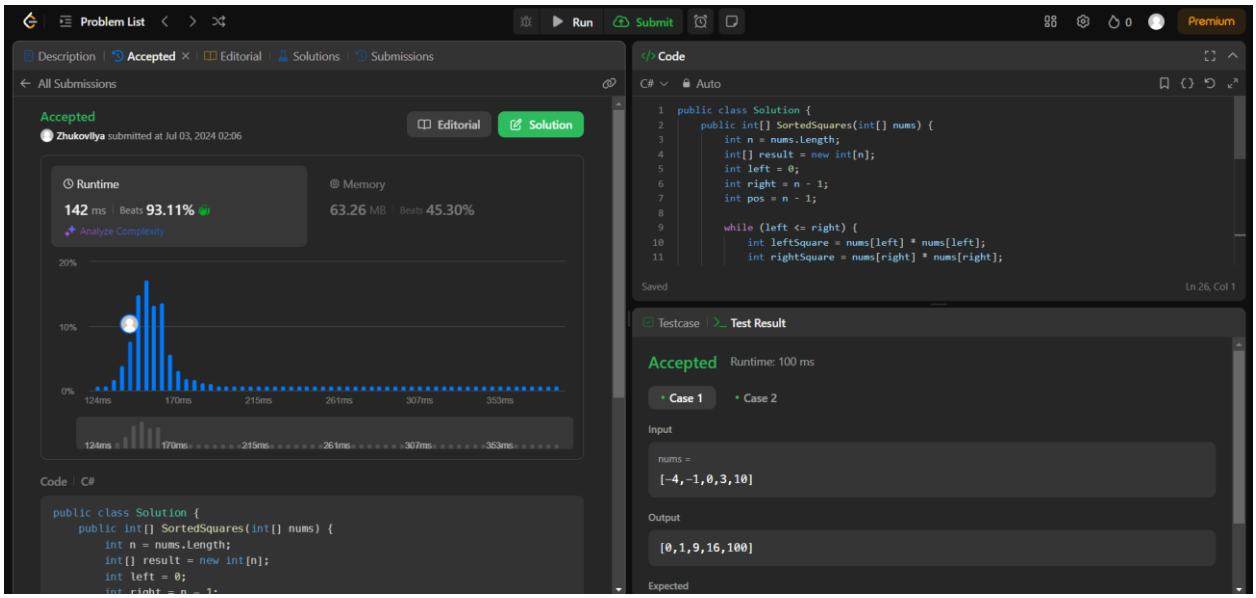
```
Input: nums = [-4,-1,0,3,10]
Output: [0,1,9,16,100]
Explanation: After squaring, the array becomes [16,1,0,9,100].
After sorting, it becomes [0,1,9,16,100].
```

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.



Код:

```
public class Solution
{
    public int[] SortedSquares(int[] nums)
    {
        int n = nums.Length;
```

```
        int[] result = new int[n];
        int left = 0;
        int right = n - 1;
        int pos = n - 1;

        while (left <= right)
        {
            int leftSquare = nums[left] * nums[left];
            int rightSquare = nums[right] * nums[right];

            if (leftSquare > rightSquare)
            {
                result[pos] = leftSquare;
                left++;
            }
            else
            {
                result[pos] = rightSquare;
                right--;
            }
            pos--;
        }

        return result;
    }
}
```