

Description

Solution

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Submissions

360. Sort Transformed Array

Medium

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Given a **sorted** integer array `nums` and three integers `a`, `b` and `c`, apply a quadratic function of the form $f(x) = ax^2 + bx + c$ to each element `nums[i]` in the array, and return *the array in a sorted order*.

Example 1:

Input: `nums = [-4,-2,2,4]`, `a = 1`, `b = 3`, `c = 5`
Output: `[3,9,15,33]`

Example 2:

Input: `nums = [-4,-2,2,4]`, `a = -1`, `b = 3`, `c = 5`
Output: `[-23,-5,1,7]`

Constraints:

- `1 <= nums.length <= 200`
- `-100 <= nums[i], a, b, c <= 100`
- `nums` is sorted in **ascending** order.

Follow up: Could you solve it in $O(n)$ time?

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No

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Squares of a Sorted Array Easy

Hide Hint 1 ^

$x^2 + x$ will form a parabola.

Hide Hint 2 ^

Parameter A in: $A * x^2 + B * x + C$ dictates the shape of the parabola.
Positive A means the parabola remains concave (high-low-high), but negative A inverts the parabola to be convex (low-high-low).

i Java

Autocomplete

```
1 class Solution {
2     public int[] sortTransformedArray(int[] nums, int a, int b, int c) {
3
4     }
5 }
```

