

2640. Find the Score of All Prefixes of an Array

Hint

Medium 115 5

Companies

We define the **conversion array** `conver` of an array `arr` as follows:

- `conver[i] = arr[i] + max(arr[0..i])` where `max(arr[0..i])` is the maximum value of `arr[j]` over `0 <= j <= i`.

We also define the **score** of an array `arr` as the sum of the values of the conversion array of `arr`.

Given a **0-indexed** integer array `nums` of length `n`, return an array `ans` of length `n` where `ans[i]` is the score of the prefix `nums[0..i]`.

Example 1:

Input: `nums = [2,3,7,5,10]`
Output: `[4,10,24,36,56]`
Explanation:
For the prefix `[2]`, the conversion array is `[4]` hence the score is 4
For the prefix `[2, 3]`, the conversion array is `[4, 6]` hence the score is 10
For the prefix `[2, 3, 7]`, the conversion array is `[4, 6, 14]` hence the score is 24
For the prefix `[2, 3, 7, 5]`, the conversion array is `[4, 6, 14, 12]` hence the score is 36
For the prefix `[2, 3, 7, 5, 10]`, the conversion array is `[4, 6, 14, 12, 20]` hence the score is 56

Example 2:

Input: `nums = [1,1,2,4,8,16]`
Output: `[2,4,8,16,32,64]`
Explanation:
For the prefix `[1]`, the conversion array is `[2]` hence the score is 2
For the prefix `[1, 1]`, the conversion array is `[2, 2]` hence the score is 4
For the prefix `[1, 1, 2]`, the conversion array is `[2, 2, 4]` hence the score is 8
For the prefix `[1, 1, 2, 4]`, the conversion array is `[2, 2, 4, 8]` hence the score is 16
For the prefix `[1, 1, 2, 4, 8]`, the conversion array is `[2, 2, 4, 8, 16]` hence the score is 32
For the prefix `[1, 1, 2, 4, 8, 16]`, the conversion array is `[2, 2, 4, 8, 16, 32]` hence the score is 64

Constraints:

- `1 <= nums.length <= 105`
- `1 <= nums[i] <= 109`

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Yes No

Discussion (7)

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