2640. Find the Score of All Prefixes of an Array

Hint

Medium 115 5

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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:

- $1 <= nums.length <= 10^5$
- $1 <= nums[i] <= 10^9$

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Discussion (7)

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