238. Product of Array Except Self

Description

Hints

Submissions

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Solution

Given an integer array nums, return an array answer such that answer[i] is equal to the product of all the elements of nums except nums[i].

The product of any prefix or suffix of nums is guaranteed to fit in a 32-bit integer.

You must write an algorithm that runs in O(n) time and without using the division operation.

Example 1:

Input: nums = [1,2,3,4]

Output: [24,12,8,6]

Example 2:

Input: nums = [-1,1,0,-3,3]

Output: [0,0,9,0,0]

Constraints:

2 <= nums.length <= 105

-30 <= nums[i] <= 30

The product of any prefix or suffix of nums is guaranteed to fit in a 32-bit integer.

Follow up: Can you solve the problem in O(1) extra space complexity? (The output array does not count as extra space for space complexity analysis.)

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Python3

1

Class Solution:

2

Def productExceptSelf(self, nums: List[int]) -> List[int]:

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N = len(nums)

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6

Left\_products, right\_products, result = [1] \* n, [1] \* n, [1] \* n

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Left\_product, right\_product = 1, 1

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For I in range(n):

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Left\_products[i] = left\_product

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Right\_products[n – 1 – i] = right\_product

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Left\_product \*= nums[i]

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Right\_product \*= nums[n – 1 – i]

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20

For I in range(n):

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Result[i] = left\_products[i] \* right\_products[i]

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Return result

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# Example usage:

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Nums = [1, 2, 3, 4]

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Solution = Solution()

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Result = solution.productExceptSelf(nums)

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Print(result)

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Custom Testcase( Contribute )

Run Code: Finished

×

Run Code Result:

Your input

[1,2,3,4]

Your stdout

[24, 12, 8, 6]

Your answer

[24,12,8,6]

Expected answer

[24,12,8,6]