

## 238. Product of Array Except Self

Medium  12618  752  Add to List  Share

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:

- $2 \leq \text{nums.length} \leq 10^5$
- $-30 \leq \text{nums}[i] \leq 30$
- 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.)