2495. Number of Subarrays Having Even Product

Premium

Medium | Topics | Hint

Given a **0-indexed** integer array `nums`, return *the number of subarrays of* `nums` *having an even product.*

Example 1:

```
Input: nums = [9,6,7,13]
Output: 6
Explanation: There are 6 subarrays with an even product:
- nums[0..1] = 9 * 6 = 54.
- nums[0..2] = 9 * 6 * 7 = 378.
- nums[0..3] = 9 * 6 * 7 * 13 = 4914.
- nums[1..1] = 6.
- nums[1..2] = 6 * 7 = 42.
- nums[1..3] = 6 * 7 * 13 = 546.
```

Example 2:

```
Input: nums = [7,3,5]
Output: 0
Explanation: There are no subarrays with an even product.
```

Constraints:

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

Seen this question in a real interview before? 1/5

Yes No

Accepted **2K** | Submissions **3.1K** | Acceptance Rate **62.7%**

Topics

Array Math Dynamic Programming

Hint 1

The product of elements in a subarray is even if it contains at least one even element.

Hint 2

Iterate from left to right and save the last index of an even number. Let that saved index be "j".

Hint 3

It can be seen that every subarray starting from earlier than index "j" and ending at the current index has an even product.

Discussion (2)