Problem 2495: Number of Subarrays Having Even Product

Problem Information

Difficulty: Medium
Acceptance Rate: 62.50%
Paid Only: Yes
Tags: Array, Math, Dynamic Programming

Problem Description

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 <= 105` * `1 <= nums[i] <= 105`

Code Snippets

C++:

```
class Solution {
public:
```

```
long long evenProduct(vector<int>& nums) {

}
};
```

Java:

```
class Solution {
public long evenProduct(int[] nums) {

}
}
```

Python3:

```
class Solution:
def evenProduct(self, nums: List[int]) -> int:
```