

2031. Count Subarrays With More Ones Than Zeros

Description

You are given a binary array `nums` containing only the integers `0` and `1`. Return *the number of subarrays in `nums` that have more `1`'s than `0`'s*. Since the answer may be very large, return it **modulo** $10^9 + 7$.

A **subarray** is a contiguous sequence of elements within an array.

Example 1:

Input: `nums = [0,1,1,0,1]`

Output: 9

Explanation:

The subarrays of size 1 that have more ones than zeros are: `[1]`, `[1]`, `[1]`

The subarrays of size 2 that have more ones than zeros are: `[1,1]`

The subarrays of size 3 that have more ones than zeros are: `[0,1,1]`, `[1,1,0]`, `[1,0,1]`

The subarrays of size 4 that have more ones than zeros are: `[1,1,0,1]`

The subarrays of size 5 that have more ones than zeros are: `[0,1,1,0,1]`

Example 2:

Input: `nums = [0]`

Output: 0

Explanation:

No subarrays have more ones than zeros.

Example 3:

Input: `nums = [1]`

Output: 1

Explanation:

The subarrays of size 1 that have more ones than zeros are: `[1]`

Constraints:

- $1 \leq \text{nums.length} \leq 10^5$
- $0 \leq \text{nums}[i] \leq 1$

