2086. Count Number of Special Subsequences

Difficulty : Hard

https://leetcode.com/problems/count-number-of-special-subsequences

A sequence is **special** if it consists of a **positive** number of `0`s, followed by a **positive** number of `1`s, then a **positive** number of `2`s.

- For example, `[0,1,2]` and `[0,0,1,1,1,2]` are special.
- In contrast, `[2,1,0]`, `[1]`, and `[0,1,2,0]` are not special.

Given an array `nums` (consisting of **only** integers `0`, `1`, and `2`), return *the **number of different subsequences** that are special*. Since the answer may be very large, **return it modulo** $10^9 + 7$.

A **subsequence** of an array is a sequence that can be derived from the array by deleting some or no elements without changing the order of the remaining elements. Two subsequences are **different** if the **set of indices** chosen are different.

Example 1:

```
Input: nums = [0,1,2,2]
Output: 3
Explanation: The special subsequences are bolded [0,1,2,2], [0,1,2,2], and [0,1,2,2].
```

Example 2:

```
Input: nums = [2,2,0,0]
Output: 0
Explanation: There are no special subsequences in [2,2,0,0].
```

Example 3:

```
Input: nums = [0,1,2,0,1,2]
Output: 7
Explanation: The special subsequences are bolded:
- [0,1,2,0,1,2]
- [0,1,2,0,1,2]
- [0,1,2,0,1,2]
- [0,1,2,0,1,2]
- [0,1,2,0,1,2]
- [0,1,2,0,1,2]
- [0,1,2,0,1,2]
```

Constraints:

- $1 <= nums.length <= 10^5$
- `0 <= nums[i] <= 2`