1631. Number of Sub-arrays With Odd Sum

Difficulty : Medium

https://leetcode.com/problems/number-of-sub-arrays-with-odd-sum

Given an array of integers `arr`, return *the number of subarrays with an **odd** sum.*

Since the answer can be very large, return it modulo `10^9 + 7`.

Example 1:

```
Input: arr = [1,3,5]
Output: 4
Explanation: All subarrays are [[1],[1,3],[1,3,5],[3],[3,5],[5]]
All sub-arrays sum are [1,4,9,3,8,5].
Odd sums are [1,9,3,5] so the answer is 4.
```

Example 2:

```
Input: arr = [2,4,6]
Output: 0
Explanation: All subarrays are [[2],[2,4],[2,4,6],[4],[4,6],[6]]
All sub-arrays sum are [2,6,12,4,10,6].
All sub-arrays have even sum and the answer is 0.
```

Example 3:

```
Input: arr = [1,2,3,4,5,6,7]
Output: 16
```

Constraints:

- `1 <= arr.length <= 10^5`
- `1 <= arr[i] <= 100`