1151. Minimum Swaps to Group All 1's Together

Premium

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Given a binary array `data`, return the minimum number of swaps required to group all `1`'s present in the array together in **any place** in the array.

Example 1:

```
Input: data = [1,0,1,0,1]
Output: 1
Explanation: There are 3 ways to group all 1's together:
[1,1,1,0,0] using 1 swap.
[0,1,1,1,0] using 2 swaps.
[0,0,1,1,1] using 1 swap.
The minimum is 1.
```

Example 2:

```
Input: data = [0,0,0,1,0]
Output: 0
Explanation: Since there is only one 1 in the array, no swaps are needed.
```

Example 3:

```
Input: data = [1,0,1,0,1,0,0,1,1,0,1]
Output: 3
Explanation: One possible solution that uses 3 swaps is [0,0,0,0,0,1,1,1,1,1,1].
```

Constraints:

- `1 <= data.length <= 10^5`
- `data[i]` is either `0` or `1`.

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

Yes No

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Hint 1

How many 1's should be grouped together ? Is not a fixed number?

Hint 2

Yeah it's just the number of 1's the whole array has. Let's name this number as ones

Hint 3

Every subarray of size of ones, needs some number of swaps to reach, Can you find the number of swaps needed to group all 1's in this subarray?

Hint 4

It's the number of zeros in that subarray.

Hint 5

Do you need to count the number of zeros all over again for every position ?

Hint 6

Use Sliding Window technique.

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