

2460. Apply Operations to an Array

Easy 531 25 Add to List Share

You are given a **0-indexed** array `nums` of size `n` consisting of **non-negative** integers.

You need to apply `n - 1` operations to this array where, in the `ith` operation (**0-indexed**), you will apply the following on the `ith` element of `nums` :

- If `nums[i] == nums[i + 1]` , then multiply `nums[i]` by 2 and set `nums[i + 1]` to 0 . Otherwise, you skip this operation.

After performing **all** the operations, **shift** all the 0 's to the **end** of the array.

- For example, the array `[1,0,2,0,0,1]` after shifting all its 0 's to the end, is `[1,2,1,0,0,0]` .

Return *the resulting array*.

Note that the operations are applied **sequentially**, not all at once.

Example 1:

Input: `nums = [1,2,2,1,1,0]`
Output: `[1,4,2,0,0,0]`
Explanation: We do the following operations:
- `i = 0`: `nums[0]` and `nums[1]` are not equal, so we skip this operation.
- `i = 1`: `nums[1]` and `nums[2]` are equal, we multiply `nums[1]` by 2 and change `nums[2]` to 0. The array becomes `[1,4,0,1,1,0]`.
- `i = 2`: `nums[2]` and `nums[3]` are not equal, so we skip this operation.
- `i = 3`: `nums[3]` and `nums[4]` are equal, we multiply `nums[3]` by 2 and change `nums[4]` to 0. The array becomes `[1,4,0,2,0,0]`.
- `i = 4`: `nums[4]` and `nums[5]` are equal, we multiply `nums[4]` by 2 and change `nums[5]` to 0. The array becomes `[1,4,0,2,0,0]`.
After that, we shift the 0's to the end, which gives the array `[1,4,2,0,0,0]`.

Example 2:

Input: `nums = [0,1]`
Output: `[1,0]`
Explanation: No operation can be applied, we just shift the 0 to the end.

```
1 class Solution:
2     def applyOperations(self, nums: List[int]) -> List[int]:
3         i = 0
4         while i < len(nums) - 1:
5             if nums[i] == nums[i + 1]:
6                 nums[i] *= 2
7                 nums[i + 1] = 0
8                 i += 1
9             i += 1
10        i = 0
11        for j in range(len(nums)):
12            if nums[j] != 0:
13                nums[i] = nums[j]
14                i += 1
15        while i < len(nums):
16            nums[i] = 0
17            i += 1
18        return nums
```

⋮

NEW