Longest Subarray With Equal Number Of 0s 1s And 2s

1. You are given an array that contains only 0s, 1s, and 2s.
2. You have to find length of the longest subarray with equal number of 0s, 1s, and 2s.

Input Format

A number N
arr1
arr2.. N numbers

Constraints

1 <= N <= 10^5
0 <= arr[i] <= 2

Sample Input

7
0 1 0 2 0 1 0

Sample Output

3

```
def LongestSubarrayWithEqualZeroAndOneAndTwo(arr):
    count0 = 0
    count1 = 0
    count2 = 0
    freq = {}
    diff1 = count1 - count0
    diff2 = count2 - count1
    key = str(diff1) + '#' + str(diff2)
    freq[key] = -1
    ans = 0
    for i, ele in enumerate(arr):
        if ele == 0:
            count0 += 1
        elif ele == 1:
            count1 += 1
```

```
        else:
            count2 += 1
        diff1 = count1 - count0
        diff2 = count2 - count1
        key = str(diff1) + '#' + str(diff2)
        if key in freq:
            ans = max(ans, i - freq[key])
        else:
            freq[key] = i

    return ans


arr = [0, 1, 0, 2, 0, 1, 0]
print(LongestSubarrayWithEqualZeroAndOneAndTwo(arr))
```