Problem #2341: Maximum Number of Pairs in Array

<https://leetcode.com/problems/maximum-number-of-pairs-in-array/description/>

**Easy Python 3 Solution using dictionary**

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# Approach

1. Create a frequency dictionary of nums called mydict using Counter from collections library.
2. Initialize pairs to 0.
3. Iterate through the dictionary values in mydict. Do integer division of val by 2 and add this to pairs.
4. Returns a list with pairs and the remaining elements of nums. The remaining elements of nums is the difference between length of nums and twice the number of pairs (since each pair has 2 elements).

# Complexity

* Time complexity:  
  O(n)  
  We only need to go through the array nums once.
* Space complexity:  
  O(n) to hold the dictionary values.

# Code

from collections import Counter

class Solution:

def numberOfPairs(self, nums: List[int]) -> List[int]:

mydict = Counter(nums)

pairs = 0

for val in mydict.values():

pairs += val // 2

return [pairs, len(nums) - (2 \* pairs)]

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