Frequencies of Array Elements

I/p: arr[] = {10, 12, 10, 15, 10, 20, 12, 12}

O/p: 10 3

12 3

15 1

20 1

I/p: arr[] = {10, 10, 10, 10}

O/p: 10 4

I/p: arr[] = {10, 20}

O/p: 10 1

20 1

```
def countFreq(arr, n):
        for i in range(n):
                flag = False
                for j in range(i):
                        if(arr[i] == arr[j]):
                                flag = True
                                break
                if(flag == True):
                        continue
                freq = 1
                for j in range(i + 1, n):
                        if(arr[i] == arr[j]):
                                freq = freq + 1
                print(arr[i], freq)

n = 5
arr = [10, 20, 20, 30, 10]
countFreq(arr, n)
```

{10, 20, 20, 30, 10}

i = 0: print(10, 2)
i = 1: print(20, 2)
i = 2:
i = 3: print(30, 1)
i = 4:
Naive solution
Time: $O(n^2)$
AUX Space: O(1)

Efficient Approach:

```
def countFreq(arr, n):
        hmp = dict()
        for i in range(n):
                if arr[i] in hmp.keys():
                        hmp[arr[i]] += 1
                else:
                        hmp[arr[i]] = 1
        for x in hmp:
                print(x, " ", hmp[x])

n = 5
arr = [10, 20, 20, 30, 10]
countFreq(arr, n)
```

Time = O(n)
Space = O(n)