

Counting elements in two arrays

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Counting elements in two arrays



Difficulty: **Medium**

Accuracy: **37.12%**

Submissions: **95K+**

Points: **4**

Average Time: **20m**

You are given two unsorted arrays **a[]** and **b[]**. Both arrays may contain duplicate elements. For each element in **a[]**, your task is to count how many elements in **b[]** are **less than or equal** to that element



Examples:

Input: a[] = [4, 8, 7, 5, 1], b[] = [4, 48, 3, 0, 1, 1, 5]

Output: [5, 6, 6, 6, 3]

Explanation:

For a[0] = 4, there are 5 elements in b (4, 3, 0, 1, 1) that are ≤ 4 .

For a[1] = 8 and a[2] = 7, there are 6 elements in b that are ≤ 8 and ≤ 7 .

For a[3] = 5, there are 6 elements in b that are ≤ 5 .

For a[4] = 1, there are 3 elements in b (0, 1, 1) that are ≤ 1 .

Input: a[] = [10, 20], b[] = [30, 40, 50]

Output: [0, 0]

Explanation:

For a[0] = 10 and a[1] = 20, there are no elements in b that are less than or equal to 10 or 20. Hence, the output is [0, 0].

Constraints:

$1 \leq a.size(), b.size() \leq 10^5$

$0 \leq a[i], b[j] \leq 10^5$

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```
1 class Solution:
2     def countLessEq(self, a, b):
3         # code here
4         n = len(a)
5         m = len(b)
6         # Result array to store counts, initialized with zeros
7         res = [0] * n
8         # Pair each element of a[] with its original index to preserve order
9         aIndexed = [(val, idx) for idx, val in enumerate(a)]
10        # Sort the paired array and b[]
11        aIndexed.sort()
12        b.sort()
13        ind = 0 # Pointer for b[]
14        # For each element in sorted a[]
15        for val, originalIndex in aIndexed:
16
17            # Move ind until b[ind] > current val
18            while ind < m and b[ind] <= val:
19                ind += 1
20            # Store the count at the correct position
21            res[originalIndex] = ind
22        return res
23
24
```



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