EX-1.2

Title :

You are given two integer arrays nums1 and nums2 of sizes n and m, respectively. Calculate the following values: answer1 : the number of indices i such that nums1[i] exists in nums2. answer2 : the number of indices i such that nums2[i] exists in nums1 Return [answer1,answer2].

Aim:

To design and implement a Python program that reads two integer arrays from the user to finding the common incides between two arrays

Procedure:

1. Take input for two arrays (`nums1` and `nums2`) from the user.
2. Convert them into Python lists of integers.
3. Convert both arrays into sets to allow **O(1)** membership checking.
4. Count how many elements in `nums1` exist in `nums2`.
5. Count how many elements in `nums2` exist in `nums1`.
6. Print the result in the form `[answer1, answer2]`.

Algorithm:

1. **Start**
2. Read input for array `nums1`.
3. Read input for array `nums2`.
4. Convert `nums1` and `nums2` into sets (`set1`, `set2`).
5. Initialize `answer1 = 0`, `answer2 = 0`.
6. For each element in `nums1`:
    - If element exists in `set2`, increment `answer1`.
7. For each element in `nums2`:

- If element exists in `set1`, increment `answer2`.

8. Print `[answer1, answer2]`.
9. **End**

Input:

Enter elements of nums1 (space separated): 2 3 2

Enter elements of nums2 (space separated): 1 2

Output:

Result: [2, 1]

Program :

```
def countCommonIndices(nums1, nums2):
    set1, set2 = set(nums1), set(nums2)
    answer1 = sum(1 for x in nums1 if x in set2)
    answer2 = sum(1 for x in nums2 if x in set1)
    return [answer1, answer2]

nums1 = list(map(int, input("Enter elements of nums1 (space separated): ").split()))
nums2 = list(map(int, input("Enter elements of nums2 (space separated): ").split()))
```

result = countCommonIndices(nums1, nums2)

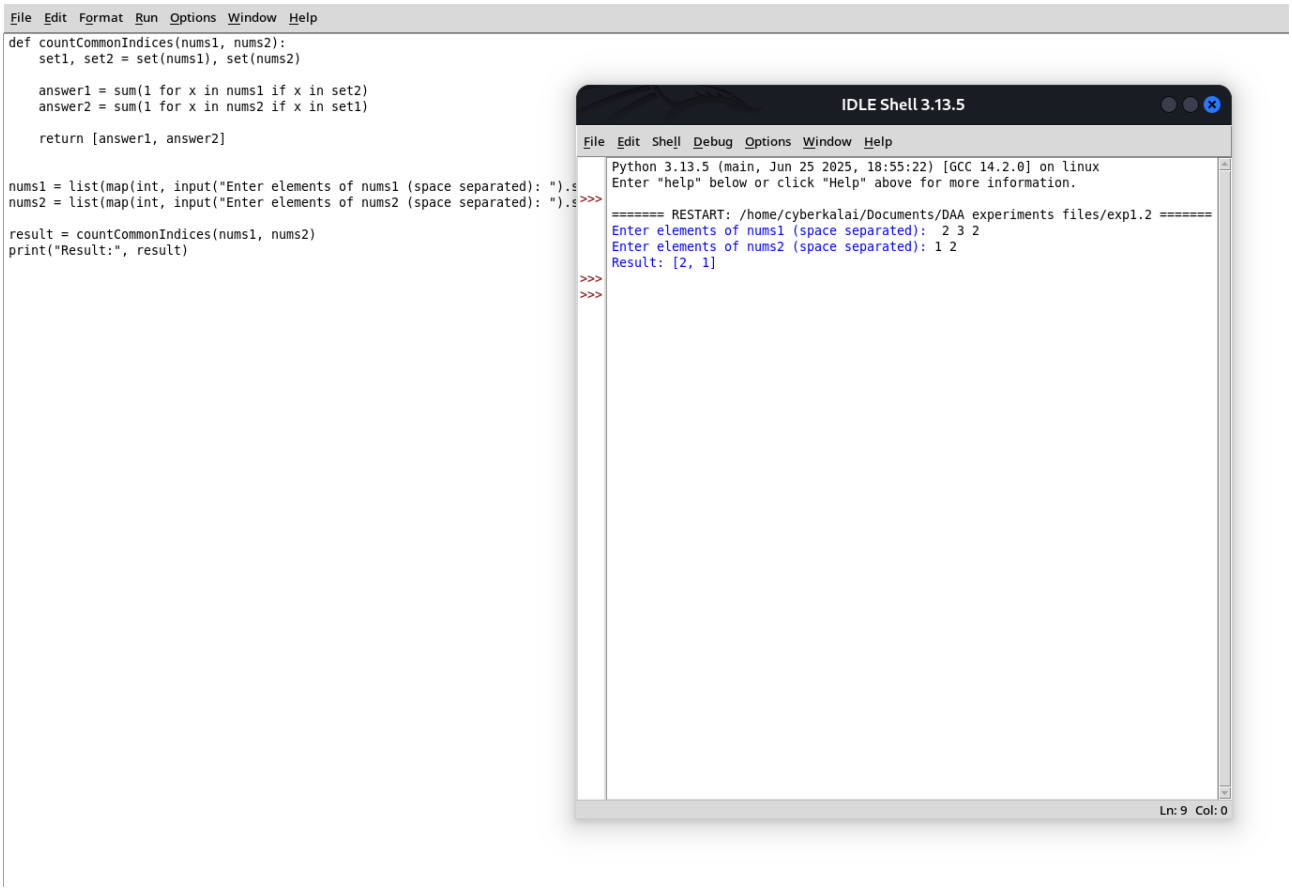
print("Result:", result)

Performance Analysis:

Time complexity : O(n+m)

Space complexity: O(n+m)

program output:



Result :

Thus the given program to find the finding the common incides between two arrays is executed and got output successfully.