

## 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)

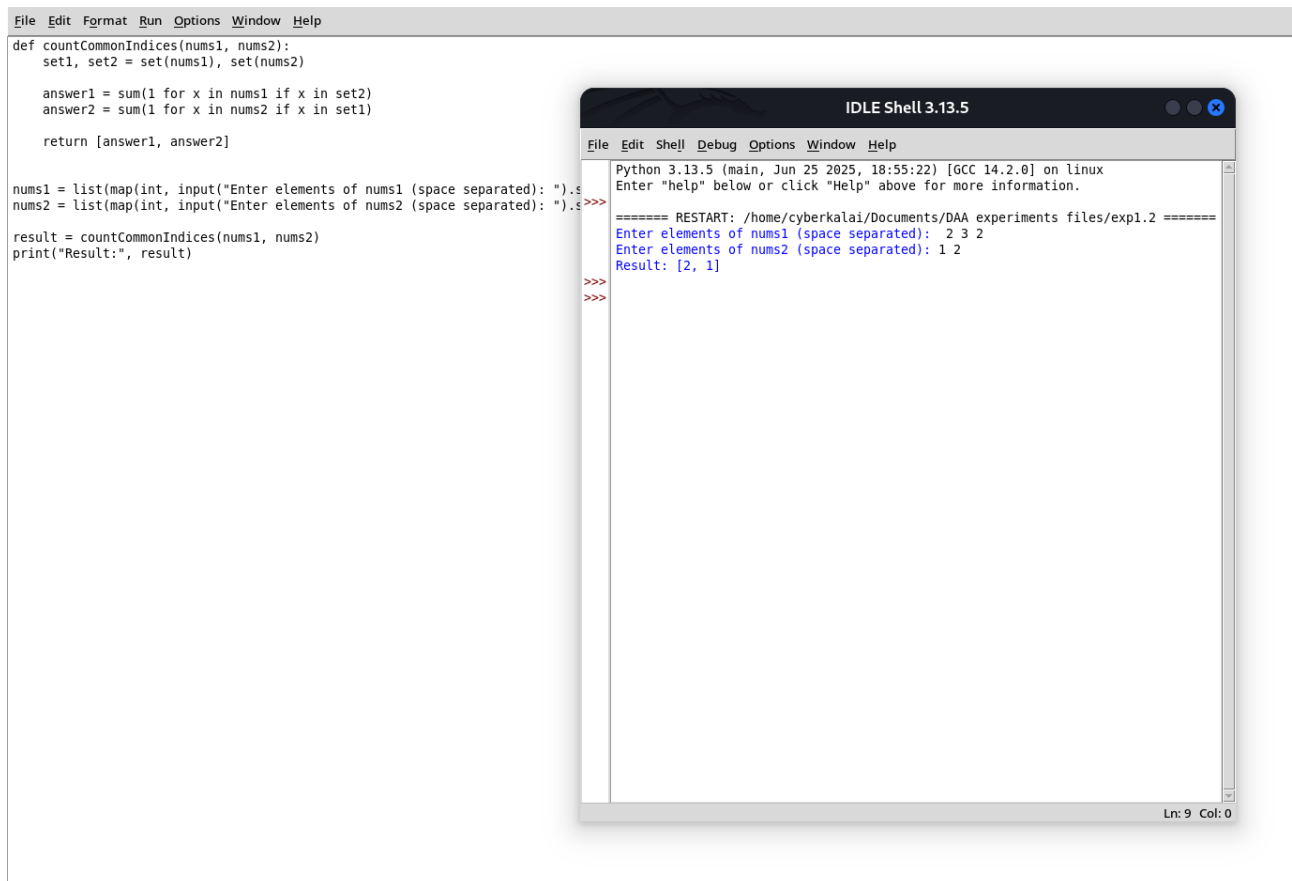
print("Result:", result)
```

## Performance Analysis:

Time complexity :  $O(n+m)$

Space complexity:  $O(n+m)$

## program output:



The screenshot displays the Python IDLE Shell 3.13.5 interface. The main window shows the source code for the `countCommonIndices` function and its execution. The code defines a function that takes two lists, `nums1` and `nums2`, and returns a list of common indices. The execution shows the user entering the elements of `nums1` (2 3 2) and `nums2` (1 2), resulting in the output `Result: [2, 1]`.

```
File Edit Format Run Options Window Help
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)
```

Python 3.13.5 (main, Jun 25 2025, 18:55:22) [GCC 14.2.0] on linux  
Enter "help" below or click "Help" above for more information.

```
===== RESTART: /home/cyberkalai/Documents/DAA experiments files/exp1.2 =====
Enter elements of nums1 (space separated): 2 3 2
Enter elements of nums2 (space separated): 1 2
Result: [2, 1]
>>>
>>>
```

Ln: 9 Col: 0

## Result :

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