

## 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

### 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 shows a web browser window with the URL `programiz.com/python-programming/online-compiler/`. The page title is "Programiz Python Online Compiler". The interface includes a "main.py" tab, a "Run" button, and an "Output" panel. The code in the editor is as follows:

```
1- def countMatches(nums1, nums2):
2-     set1 = set(nums1)
3-     set2 = set(nums2)
4-
5-     answer1 = sum(1 for x in nums1 if x in set2)
6-     answer2 = sum(1 for x in nums2 if x in set1)
7-
8-     return [answer1, answer2]
9-
10 print(countMatches([2,3,2], [1,2]))
11 print(countMatches([4,3,2,3,1], [2,2,5,2,3,6]))
12 print(countMatches([1,1,1], [2,2,2]))
13
```

The output panel displays the following results:

```
[2, 1]
[3, 4]
[0, 0]
=== Code Execution Successful ===
```

## Result :

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