

Ex. No. : 6.6

Date: 04.05.24

Register No.: 231901035

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Intersection of array

Find the intersection of two sorted arrays.

OR in other words,

Given 2 sorted arrays, find all the elements which occur in both the arrays.

Input Format

The first line contains T, the number of test cases. Following T lines contain:

1. Line 1 contains N1, followed by N1 integers of the first array
2. Line 2 contains N2, followed by N2 integers of the second array

Output Format

The intersection of the arrays in a single line

Example

Input:

```
1
3 10 17 57
6 2 7 10 15 57 246
```

Output:

```
10 57
```

Input:

```
1
7
1
2
3
3
4
5
```



6

2

1

6

Output:

1 6

For example:

Input	Result
1 3 10 17 57 6 2 7 10 15 57 246	10 57
1 7 1 2 3 3 4 5 6 2 1 6	1 6



Program:

```
t=int(input())
l1=list()
while(t!=0):
    n1=int(input())
    l1=[]
    l2=[]
    for i in range(0,n1):
        a=int(input())
        l1.append(a)
    n2=int(input())
    for i in range(0,n2):
        a=int(input())
        l2.append(a)
    t=t-1
    c=set(l1)
    d=set(l2)
    e=list(c.intersection(d))
    e.sort()
    for i in e:
        print(i,end=' ')
    print("\n")
```



	Input	Expected	Got	
✓	1 3 10 17 57 6 2 7 10 15 57 246	10 57	10 57	✓
✓	1 7 1 2 3 3 4 5 6 2 1 6	1 6	1 6	✓



Ex. No. : 6.7

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Location

Write a program to print all the locations at which a particular element (taken as input) is found in a list and also print the total number of times it occurs in the list. The location starts from 1.

For example, if there are 4 elements in the array:

5
6
5
7

If the element to search is 5 then the output will be:

5 is present at location 1
5 is present at location 3
5 is present 2 times in the array.

Sample Test Cases

Test Case 1

Input

4
5
6
5
7
5

Output

5 is present at location 1.
5 is present at location 3.
5 is present 2 times in the array.



Test Case 2

Input

5
67
80
45
97
100
50

Output

50 is not present in the array.

Program:

```
n = int(input())
arr = [int(input()) for _ in range(n)]
element_to_search = int(input())
locations = []
occurrences = 0
for i in range(len(arr)):
    if arr[i] == element_to_search:
        locations.append(i + 1)
        occurrences += 1
if occurrences == 0:
    print(f"{element_to_search} is not present in the array.")
else:
    for loc in locations:
        print(f"{element_to_search} is present at location {loc}.")
    print(f"{element_to_search} is present {occurrences} times in the array.")
```



	Input	Expected	Got	
✓	4 5 6 5 7 5	5 is present at location 1. 5 is present at location 3. 5 is present 2 times in the array.	5 is present at location 1. 5 is present at location 3. 5 is present 2 times in the array.	✓
✓	5 67 80 45 97 100 50	50 is not present in the array.	50 is not present in the array.	✓



Ex. No. : 6.8

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Strictly increasing

Write a Python program to check if a given list is strictly increasing or not. Moreover, If removing only one element from the list results in a strictly increasing list, we still consider the list true

Input:

n : Number of elements

List1: List of values

Output

Print "True" if list is strictly increasing or decreasing else print "False"

Sample Test Case

Input

7

1

2

3

0

4

5

6

Output

True



Program:

```
def check_increasing_or_decreasing(lst):

    increasing = True

    decreasing = True

    for i in range(1, len(lst)):

        if lst[i] > lst[i - 1]:

            decreasing = False

        elif lst[i] < lst[i - 1]:

            increasing = False

    return increasing or decreasing


def check_strictly_increasing_with_removal(lst):

    for i in range(len(lst)):

        temp_lst = lst[:i] + lst[i+1:]

        if check_increasing_or_decreasing(temp_lst):

            return True

    return False


n = int(input())

lst = []

for _ in range(n):

    lst.append(int(input()))

if check_increasing_or_decreasing(lst) or check_strictly_increasing_with_removal(lst):
```



```
print("True")
```

else:

```
print("False")
```

	Input	Expected	Got	
✓	7 1 2 3 0 4 5 6	True	True	✓
✓	4 2 1 0 -1	True	True	✓

