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/ [4-Print Intersection of 2 sorted arrays- \$O\(m+n\)\$ Time Complexity, \$O\(1\)\$ Space Complexity](#)

Started on Tuesday, 19 November 2024, 11:44 PM

State Finished

Completed on Tuesday, 19 November 2024, 11:45 PM

Time taken 1 min 6 secs

Marks 1.00/1.00

Grade 30.00 out of 30.00 (100%)

Question **1**

Correct

Mark 1.00 out of 1.00

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

6 1 2 3 4 5 6

2 1 6

Output:

1 6

For example:

Input	Result
	10 57

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

Answer: (penalty regime: 0 %)

```

1 #include <stdio.h>
2
3 void find_intersection(int arr1[], int n1, int arr2[], int n2) {
4     int i = 0, j = 0;
5
6     // Traverse both arrays
7     while (i < n1 && j < n2) {
8         if (arr1[i] < arr2[j]) {
9             i++;
10        } else if (arr1[i] > arr2[j]) {
11            j++;
12        } else {
13            printf("%d ", arr1[i]);
14            i++;
15            j++;
16        }
17    }
18 }
19
20 int main() {
21     int t;
22     scanf("%d", &t);
23
24     while (t--) {
25         int n1, n2;
26         scanf("%d", &n1);
27         int arr1[n1];
28         for (int i = 0; i < n1; i++) {
29             scanf("%d", &arr1[i]);
30         }
31         scanf("%d", &n2);
32         int arr2[n2];
33         for (int i = 0; i < n2; i++) {
34             scanf("%d", &arr2[i]);
35         }
36         find_intersection(arr1, n1, arr2, n2);
37         printf("\n");
38     }
39
40     return 0;
41 }
42

```

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

1				
6 1 2 3 4 5 6				
2				
1 6				

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

◀ 3-Print Intersection of 2 sorted arrays- $O(m*n)$ Time Complexity, $O(1)$ Space Complexity

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5-Pair with Difference- $O(n^2)$ Time Complexity, $O(1)$ Space Complexity ▶