4-Print Intersection of 2 sorted arrays-O(m+n)Time Complexity,O(1) Space Complexity

Started on	Friday, 24 October 2025, 2:14 PM
State	Finished
Completed on	Friday, 24 October 2025, 2:15 PM
Time taken	57 secs
Marks	1.00/1.00
Grade	**30.00** out of 30.00 (**100**%)

Question 1 | Correct Mark 1.00 out of 1.00 Flag question

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

Answer: (penalty regime: 0 %)

```
1 #include <stdio.h>
```

```c
#include <stdlib.h>

// Function to read an array from the input line (size followed by elements)
int* read_array(int* size) {
    if (scanf("%d", size) != 1 || *size <= 0) {
        *size = 0;
        return NULL;
    }

    // Dynamically allocate memory
    int* arr = (int*)malloc(*size * sizeof(int));
    if (arr == NULL) {
        perror("Memory allocation failed");
        *size = 0;
        return NULL;
    }

    // Read the N elements
    for (int i = 0; i < *size; i++) {
        if (scanf("%d", &arr[i]) != 1) {
            free(arr);
            *size = 0;
            return NULL;
        }
    }
    return arr;
}

// Function to find and print the intersection using the Two-Pointer technique
void find_intersection(int* arr1, int n1, int* arr2, int n2) {
    int i = 0; // Pointer for arr1
    int j = 0; // Pointer for arr2
    int found_intersection = 0;

    while (i < n1 && j < n2) {
        if (arr1[i] < arr2[j]) {
            i++;
        } else if (arr1[i] > arr2[j]) {
            j++;
        } else {
            // Intersection found
            if (found_intersection) {
                printf(" ");
            }
            printf("%d", arr1[i]);
            found_intersection = 1;

            // Advance both pointers
```

```
50              i++;
51              j++;
52          }
```

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

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

Finish review

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