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#include <stdio.h>
#include <stdlib.h>

void findCommonElements(int *arr1, int *arr2, int *arr3, int size1, int size2, int size3)
{
    int index1 = 0, index2 = 0, index3 = 0;

    while(index1 < size1 && index2 < size2 && index3 < size3)
    {
        if(arr1[index1] == arr2[index2] && arr2[index2] == arr3[index3])
        {
            printf("%d\t", arr1[index1]);
            index1++;    index2++;    index3++;
        }
        else if(arr1[index1] < arr2[index2])
            index1++;

        else if(arr2[index2] < arr3[index3])
            index2++;

        else
            index3++;
    }
}

int main()
{
    int size1, size2, size3, *arr1, *arr2, *arr3, index;
    printf("Enter sizes of Three arrays\n");
    scanf("%d %d %d", &size1, &size2, &size3);

    //allocate memory
    arr1 = (int *)malloc(sizeof(int) * size1);
    arr2 = (int *)malloc(sizeof(int) * size2);
    arr3 = (int *)malloc(sizeof(int) * size3);

    printf("Enter elements in first array\n");
    for(index = 0; index < size1; index++)
        scanf("%d", &arr1[index]);

    printf("Enter elements in second array\n");
    for(index = 0; index < size2; index++)
        scanf("%d", &arr2[index]);

    printf("Enter elements in third array\n");
    for(index = 0; index < size3; index++)
        scanf("%d", &arr3[index]);

    findCommonElements(arr1, arr2, arr3, size1, size2, size3);

    return 0;
}

```

}

Time complexity: $O(n_1 + n_2 + n_3)$
space complexity: $O(1)$