- **EASY**

- **Max Score: 20 Points**

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Intersection Of Two Arrays

You are given two arrays 'A' and 'B' of size 'N' and 'M' respectively. Both these arrays are sorted in non-decreasing order. You have to find the intersection of these two arrays. Intersection of two arrays is an array that consists of all the common elements occurring in both arrays.

Note :

1. The length of each array is greater than zero.
2. Both the arrays are sorted in non-decreasing order.
3. The output should be in the order of elements that occur in the original arrays.
4. If there is no intersection present then return an empty array.

Input Format :

The first line of input contains two integers 'N' 'M', denoting the size of the two arrays. The second line of input contains 'N' space-separated integers denoting the elements of the first array. The third line of input contains 'M' space-separated integers denoting the elements of the second array.

Output Format :

The first line of input contains an integer K denoting the number of elements in the intersection. The second line of output of contains 'K' space-separated integers which correspond to the intersection of the two arrays A and B.

Example 1:

Input:

```
6 4
1 2 2 2 3 4
2 2 3 3
```

Output:

```
3
2 2 3
```

Explanation:

```
The common elements are 2 2 3 in both the arrays, so we print it.
```

Example 2:

Input:

```
3 2
1 2 3
3 4
```

Output:

```
1
3
```

Explanation:

```
Only 3 is common so we print 3.
```

Constraints:

1 <= N, M <= 10^4

0 <= A[i] <= 10^5

0 <= B[i] <= 10^5

Topic Tags

- **2-Pointers**

My code

```java
// in java
import java.util.*;
import java.lang.*;
import java.io.*;

public class Main
{
	public static void main (String[] args) throws java.lang.Exception
	{
		//your code here
	Scanner s=new Scanner(System.in);
	int n=s.nextInt();
	int m=s.nextInt();
	int a[]=new int[n];
	for(int i=0;i<n;i++)
	  a[i]=s.nextInt();
	int b[]=new int[m];
	  for(int i=0;i<m;i++)
	  b[i]=s.nextInt();
	int c[]=new int[n+m];
	int count=0;//size of third array;
	int p=0,q=0;
	while(q<m && p<n)
	  {
```

```java
          if(a[p]==b[q])
          {
            c[count++]=a[p];
            p++;
            q++;
          }
          else  if(a[p]>b[q]) q++;
           else if(a[p]<b[q]) p++;
        }
      System.out.println(count+" ");
       for(int i=0;i<count;i++)
          {
              System.out.print(c[i]+" ");
          }


        }
}
```