Find Index of Extra Element

Given two sorted arrays. There is only 1 difference between the arrays. First array has one element extra added in between. Design an **efficient algorithm** to find the index of the extra element.

Input: **Already Implemented**

The first line of input is an integer T (T < 30), that indicates the number of test cases. Each case consists of two integer arrays arr1 with size N+1 and arr2 with size N (size is written first, followed by the array elements). N is an integer in the range 1 to 50,000,000.

Output: **Already Implemented**

The result of the computation, a single integer that represents the index of the extra element.

Function: **Implement it!**

public int FindIndexOfExtraElement(int[] arr1, int[] arr2)

It takes two arrays of sorted integers, it shall return the index of the extra element that appears in arr1.

FindExtraElement.cs includes this method.

# Example

|  |  |  |
| --- | --- | --- |
| **#** | **Input Array** | **Output** |
| **1** | 2, 4, 5, 6, 8, 10, 12  2, 4, 6, 8, 10, 12 | 2 |
| **2** | 3, 5, 7, 9, 11, 13  3, 5, 7, 11, 13 | 3 |
| **3** | 3, 5, 7, 11, 14, 20  3, 5, 7, 11, 14 | 5 |
| **4** | 1, 3, 5, 7, 9, 11, 13  3, 5, 7, 9, 11, 13 | 0 |

# C# Help

## Getting the size of 1D array

int size = array1D.GetLength(0);

## Getting the size of 2D array

int size1 = array2D.GetLength(0);

int size2 = array2D.GetLength(1);

## Creating 1D array

int [] array1D = new int [size]

## Creating 2D array

int [,] array2D = new int [size1, size2]

## Sorting single array

Sort the given array "items" in ascending order

Array.Sort(items);

## Sorting parallel arrays

Sort the first array "master" and re-order the 2nd array "slave" according to this sorting

Array.Sort(master, slave);