

Prompt	Scratchpad	Our Solution(s)	Video Explanation	Run Code	Your Solutions	Run Code
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Solution 1

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 using System;
4
5 public class Program {
6     // O(nlog(n) + mlog(m)) time | O(1) space
7     public static int[] SmallestDifference(int[] arrayOne, int[] arrayTwo) {
8         Array.Sort(arrayOne);
9         Array.Sort(arrayTwo);
10        int idxOne = 0;
11        int idxTwo = 0;
12        int smallest = Int32.MaxValue;
13        int current = Int32.MaxValue;
14        int[] smallestPair = new int[2];
15        while (idxOne < arrayOne.Length && idxTwo < arrayTwo.Length) {
16            int firstNum = arrayOne[idxOne];
17            int secondNum = arrayTwo[idxTwo];
18            if (firstNum < secondNum) {
19                current = secondNum - firstNum;
20                idxOne++;
21            } else if (secondNum < firstNum) {
22                current = firstNum - secondNum;
23                idxTwo++;
24            } else {
25                return new int[] {firstNum, secondNum};
26            }
27            if (smallest > current) {
28                smallest = current;
29                smallestPair = new int[] {firstNum, secondNum};
30            }
31        }
32        return smallestPair;
33    }
34 }
35
```

Solution 1Solution 2Solution 3

```
1 public class Program {
2     public static int[] SmallestDifference(int[] arrayOne, int[] arrayTwo) {
3         // Write your code here.
4         return null;
5     }
6 }
7
```

Run or submit code when you're ready.