

Our Solution(s)

Run Code

Solution 1Solution 2

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 using System.Linq;
4
5 public class Program {
6     // Best: O(nlog(n)) time | O(nlog(n)) space
7     // Average: O(nlog(n)) time | O(nlog(n)) space
8     // Worst: O(nlog(n)) time | O(nlog(n)) space
9     public static int[] MergeSort(int[] array) {
10         if (array.Length <= 1) {
11             return array;
12         }
13         int middleIdx = array.Length / 2;
14         int[] leftHalf = array.Take(middleIdx).ToArray();
15         int[] rightHalf = array.Skip(middleIdx).ToArray();
16         return mergeSortedArrays(MergeSort(leftHalf), MergeSort(rightHalf))
17     }
18
19     public static int[] mergeSortedArrays(int[] leftHalf, int[] rightHalf) {
20         int[] sortedArray = new int[leftHalf.Length + rightHalf.Length];
21         int k = 0;
22         int i = 0;
23         int j = 0;
24         while (i < leftHalf.Length && j < rightHalf.Length) {
25             if (leftHalf[i] <= rightHalf[j]) {
26                 sortedArray[k++] = leftHalf[i++];
27             } else {
28                 sortedArray[k++] = rightHalf[j++];
29             }
30         }
31         while (i < leftHalf.Length) {
32             sortedArray[k++] = leftHalf[i++];
33         }
34     }
35 }
```

Your Solutions

Run Code

Solution 1Solution 2Solution 3

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

Our Tests

```
1 public class Program {
2     public static int[] MergeSort(int[] array) {
3         // Write your code here.
4         return null;
5     }
6 }
```

Custom Output

Submit Code

```
18 (Test):
19 assert len(testcases) == 2
20 assert expected == (5, 5)
21 assert test == (5, 5)
22 return unittest.main(verbosity=2, failfast=False)
23
24
25 (Test):
26 assert len(testcases) == 2
27 assert expected == (5, 5)
28 assert test == (5, 5)
29 return unittest.main(verbosity=2, failfast=False)
30
31
32
```

Run or submit code when you're ready.