

Our Solution(s)

Run Code

Your Solutions

Run Code

Solution 1

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 using System;
4 public class Program {
5     // O(n) time | O(n) space
6     public static int WaterArea(int[] heights) {
7         int[] maxes = new int[heights.Length];
8         int leftMax = 0;
9         for (int i = 0; i < heights.Length; i++) {
10             int height = heights[i];
11             maxes[i] = leftMax;
12             leftMax = Math.Max(leftMax, height);
13         }
14         int rightMax = 0;
15         for (int i = heights.Length - 1; i >= 0; i--) {
16             int height = heights[i];
17             int minHeight = Math.Min(rightMax, maxes[i]);
18             if (height < minHeight) {
19                 maxes[i] = minHeight - height;
20             } else {
21                 maxes[i] = 0;
22             }
23             rightMax = Math.Max(rightMax, height);
24         }
25         int total = 0;
26         for (int i = 0; i < heights.Length; i++) {
27             total += maxes[i];
28         }
29         return total;
30     }
31 }
32
```

Solution 1Solution 2Solution 3

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

Our Tests

```
1 public class Program {
2     // ...
3     public static int WaterArea(int[] heights) {
4         // ...
5         return -1;
6     }
7 }
8
```

Custom Output

Submit Code

```
1
2
3
4
5
6
7
8
```

```
1 def test():
2     assert test_helper()
3
4     input = [0, 1, 2, 3, 4, 5]
5     assert test_helper(input) == 10
6
7
8
9
10 def test():
11     assert test_helper()
12
13     input = [0, 1, 2, 3, 4, 5]
14     assert test_helper(input) == 10
15
16
17
18
19 def test():
20     assert test_helper()
21
22     input = [0, 1, 2, 3, 4, 5]
```

Run or submit code when you're ready.