Our Solution(s)   Run Code

Solution 1

```javascript
// Copyright © 2020 AlgoExpert, LLC. All rights reserved.

// O(n) time | O(n) space
function waterArea(heights) {
  const maxes = new Array(heights.length).fill(0);
  let leftMax = 0;
  for (let i = 0; i < heights.length; i++) {
    const height = heights[i];
    maxes[i] = leftMax;
    leftMax = Math.max(leftMax, height);
  }
  let rightMax = 0;
  for (let i = heights.length - 1; i >= 0; i--) {
    const height = heights[i];
    const minHeight = Math.min(rightMax, maxes[i]);
    if (height < minHeight) {
      maxes[i] = minHeight - height;
    } else {
      maxes[i] = 0;
    }
    rightMax = Math.max(rightMax, height);
  }
  return maxes.reduce((a, b) => a + b, 0);
}

exports.waterArea = waterArea;
```

Your Solutions   Run Code

Solution 1   Solution 2   Solution 3

```javascript
function waterArea(heights) {
  // Write your code here.
}

// Do not edit the line below.
exports.waterArea = waterArea;
```

Our Tests

Custom Output   Submit Code

Run or submit code when you're ready.