

Solution 1

```
1 # Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 # O(n) time | O(n) space
4 def waterArea(heights):
5     maxes = [0 for x in heights]
6     leftMax = 0
7     for i in range(len(heights)):
8         height = heights[i]
9         maxes[i] = leftMax
10        leftMax = max(leftMax, height)
11    rightMax = 0
12    for i in reversed(range(len(heights))):
13        height = heights[i]
14        minHeight = min(rightMax, maxes[i])
15        if height < minHeight:
16            maxes[i] = minHeight - height
17        else:
18            maxes[i] = 0
19        rightMax = max(rightMax, height)
20    return sum(maxes)
21
```