

PromptScratchpadOur Solution(s)Video Explanation

Run Code

Solution 1Solution 2Solution 3

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 class Program {
4     // O(n) time | O(n) space
5     func minRewards(_ scores: [Int]) -> Int {
6         var rewards = Array(repeating: 1, count: scores.count)
7         let localMinIndices = getLocalMinIndices(scores)
8
9         for localMinIndex in localMinIndices {
10             expandFromLocalMinIndex(localMinIndex, scores, &rewards)
11         }
12
13         return rewards.reduce(0) { $0 + $1 }
14     }
15
16     func getLocalMinIndices(_ scores: [Int]) -> [Int] {
17         if scores.count == 1 {
18             return [0]
19         }
20
21         var localMinIndices = [Int]()
22
23         for i in 0 ..< scores.count {
24             if i == 0 && scores[i] < scores[i + 1] {
25                 localMinIndices.append(i)
26             }
27
28             if i == scores.count - 1 && scores[i] < scores[i - 1] {
29                 localMinIndices.append(i)
30             }
31
32             if i == 0 || i == scores.count - 1 {
33                 continue
34             }
35
36             if scores[i] < scores[i - 1], scores[i] < scores[i + 1] {
37                 localMinIndices.append(i)
38             }
39         }
40
41         return localMinIndices
42     }
43
44     func expandFromLocalMinIndex(_ localMinIndex: Int, _ scores: [Int], _ rewards: inout [Int]) {
45         var leftIndex = localMinIndex - 1
46
47         while leftIndex >= 0, scores[leftIndex] > scores[leftIndex + 1] {
48             rewards[leftIndex] = max(rewards[leftIndex], rewards[leftIndex + 1] + 1)
49             leftIndex -= 1
50         }
51
52         var rightIndex = localMinIndex + 1
53
54         while rightIndex < scores.count, scores[rightIndex] > scores[rightIndex - 1] {
55             rewards[rightIndex] = max(rewards[rightIndex], rewards[rightIndex - 1] + 1)
56             rightIndex += 1
57         }
58     }
59 }
60
```