

PromptScratchpadOur Solution(s)Video Explanation

Run Code

Solution 1Solution 2Solution 3

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 import java.util.*;
4 import java.util.stream.*;
5
6 // O(n) time | O(n) space - where in is the length of the input array
7 class Program {
8     public static int minRewards(int[] scores) {
9         int[] rewards = new int[scores.length];
10        Arrays.fill(rewards, 1);
11        List<Integer> localMinIdxs = getLocalMinIdxs(scores);
12        for (Integer localMinIdx : localMinIdxs) {
13            expandFromLocalMinIdx(localMinIdx, scores, rewards);
14        }
15        return IntStream.of(rewards).sum();
16    }
17
18    public static List<Integer> getLocalMinIdxs(int[] array) {
19        List<Integer> localMinIdxs = new ArrayList<Integer>();
20        if (array.length == 1) {
21            localMinIdxs.add(0);
22            return localMinIdxs;
23        }
24        for (int i = 0; i < array.length; i++) {
25            if (i == 0 && array[i] < array[i + 1]) localMinIdxs.add(i);
26            if (i == array.length - 1 && array[i] < array[i - 1]) localMinIdxs.add(i);
27            if (i == 0 || i == array.length - 1) continue;
28            if (array[i] < array[i + 1] && array[i] < array[i - 1]) localMinIdxs.add(i);
29        }
30        return localMinIdxs;
31    }
32
33    public static void expandFromLocalMinIdx(int localMinIdx, int[] scores, int[] rewards) {
34        int leftIdx = localMinIdx - 1;
35        while (leftIdx >= 0 && scores[leftIdx] > scores[leftIdx + 1]) {
36            rewards[leftIdx] = Math.max(rewards[leftIdx], rewards[leftIdx + 1] + 1);
37            leftIdx--;
38        }
39        int rightIdx = localMinIdx + 1;
40        while (rightIdx < scores.length && scores[rightIdx] > scores[rightIdx - 1]) {
41            rewards[rightIdx] = rewards[rightIdx - 1] + 1;
42            rightIdx++;
43        }
44    }
45 }
46
```