

AlgoExpert

Quad Layout

Swift

12px

Sublime

Monokai

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PromptScratchpadOur Solution(s)Video Explanation

Run Code

Solution 1Solution 2Solution 3

1// Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3class Program {
4 let UP = "up"
5 let DOWN = "down"
6 let LEFT = "left"
7 let RIGHT = "right"
8
9 func coordToString(_ coord: [Int]) -> String {
10 let x = coord[0]
11 let y = coord[1]
12
13 return "\(x)-\(y)"
14 }
15
16 // O(n^2) time | O(n) space
17 func rectangleMania(_ coords: [[Int]]) -> Int {
18 let coordsTable = getCoordsTable(coords)
19 return getRectangleCount(coords, coordsTable)
20 }
21
22 func getCoordsTable(_ coords: [[Int]]) -> [String: Bool] {
23 var coordsTable = [String: Bool]()
24
25 for coord in coords {
26 let coordString = coordToString(coord)
27 coordsTable[coordString] = true
28 }
29
30 return coordsTable
31 }
32
33 func getRectangleCount(_ coords: [[Int]], _ coordsTable: [String: Bool]) -> Int {
34 var rectangleCount = 0
35
36 for coord1 in coords {
37 let x1 = coord1[0]
38 let y1 = coord1[1]
39
40 for coord2 in coords {
41 let x2 = coord2[0]
42 let y2 = coord2[1]
43
44 if !isInUpperRightCorner(coord1, coord2) {
45 continue
46 }
47
48 let leftCoordString = coordToString([x1, y2])
49 let bottomCoordString = coordToString([x2, y1])
50
51 if coordsTable.keys.contains(leftCoordString), coordsTable.keys.contains(bottomCoordString) {
52 rectangleCount += 1
53 }
54 }
55 }
56
57 return rectangleCount
58 }
59
60 func isInUpperRightCorner(_ coord1: [Int], _ coord2: [Int]) -> Bool {
61 let x1 = coord1[0]
62 let y1 = coord1[1]
63
64 let x2 = coord2[0]
65 let y2 = coord2[1]
66
67 return x2 > x1 && y2 > y1
68 }
69 }
70

