

AlgoExpert

Quad Layout

Go

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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  
3 package main  
4  
5 type Coord struct {  
6 X, Y int  
7 }  
8  
9 type Direction int  
10  
11 const (  
12 None Direction = iota - 1  
13 Up  
14 Down  
15 Left  
16 Right  
17 )  
18  
19 // O(n^2) time | O(n) space - where n is the number of coordinates  
20 func RectangleMania(coords []Coord) int {  
21 coordsTable := getCoordsTable(coords)  
22 return getRectangleCount(coords, coordsTable)  
23 }  
24  
25 type CoordsTable map[Coord]struct{}  
26  
27 func getCoordsTable(coords []Coord) CoordsTable {  
28 table := CoordsTable{}  
29 for \_, coord := range coords {  
30 table[coord] = struct{}{}  
31 }  
32 return table  
33 }  
34  
35 func getRectangleCount(coords []Coord, coordsTable CoordsTable) int {  
36 count := 0  
37 for \_, coord1 := range coords {  
38 for \_, coord2 := range coords {  
39 if !isInUpperRight(coord1, coord2) {  
40 continue  
41 }  
42 upperCoord := Coord{coord1.X, coord2.Y}  
43 rightCoord := Coord{coord2.X, coord1.Y}  
44 \_, found1 := coordsTable[upperCoord]  
45 \_, found2 := coordsTable[rightCoord]  
46 if found1 && found2 {  
47 count++  
48 }  
49 }  
50 }  
51 return count  
52 }  
53  
54 func isInUpperRight(coord1, coord2 Coord) bool {  
55 return coord2.X > coord1.X && coord2.Y > coord1.Y  
56 }  
57

