

AlgoExpert

Quad LayoutSwift12pxSublimeMonok

Prompt	Scratchpad	Our Solution(s)	Video Explanation	Run Code
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Solution 1Solution 2Solution 3Solution 4

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1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 ▾ class Program {
4     // O(n^4) time | O(1) space - where n is the height and width of the matrix
5     ▾ static func squareOfZeroes(_ matrix: [[Int]]) -> Bool {
6         var mat = matrix
7         let n = matrix.count
8         ▾ for topRow in 0 ..< n {
9             ▾ for leftCol in 0 ..< n {
10                 var squareLength = 2
11                 ▾ while squareLength <= n - leftCol, squareLength <= n - topRow {
12                     let bottomRow = topRow + squareLength - 1
13                     let rightCol = leftCol + squareLength - 1
14                     ▾ if isSquareOfZeroes(&mat, topRow, leftCol, bottomRow, rightCol) {
15                         return true
16                     }
17                     squareLength += 1
18                 }
19             }
20         }
21         return false
22     }
23
24     // r1 is the top row, c1 is the left column
25     // r2 is the bottom row, c2 is the right column
26     ▾ static func isSquareOfZeroes(_ matrix: inout [[Int]], _ r1: Int, _ c1: Int, _ r2: Int, _ c2: Int) -> Bool {
27         ▾ for row in r1 ..< r2 + 1 {
28             ▾ if matrix[row][c1] != 0 || matrix[row][c2] != 0 {
29                 return false
30             }
31         }
32
33         ▾ for col in c1 ..< c2 + 1 {
34             ▾ if matrix[r1][col] != 0 || matrix[r2][col] != 0 {
35                 return false
36             }
37         }
38         return true
39     }
40 }
41
```

