

Prompt	Scratchpad	Our Solution(s)	Video Explanation	Run Code
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Solution 1	Solution 2	Solution 3	Solution 4
<pre>1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved. 2 3 package main 4 5 import "fmt" 6 7 // O(n^4) time O(n^3) space - where n is the height and width of the matrix 8 ▾ func SquareOfZeroes(matrix [][]int) bool { 9 lastIdx := len(matrix) - 1 10 return hasSquareOfZeroes(matrix, 0, 0, lastIdx, lastIdx, map[string]bool{}) 11 } 12 13 // r1 is the top row, c1 is the left column 14 // r2 is the bottom row, c2 is the right column 15 ▾ func hasSquareOfZeroes(matrix [][]int, r1, c1, r2, c2 int, cache map[string]bool) bool { 16 ▾ if r1 >= r2 c1 >= c2 { 17 return false 18 } 19 20 key := fmt.Sprintf("%d-%d-%d-%d", r1, c1, r2, c2) 21 ▾ if out, found := cache[key]; found { 22 return out 23 } 24 25 cache[key] = 26 isSquareOfZeroes(matrix, r1, c1, r2, c2) 27 hasSquareOfZeroes(matrix, r1+1, c1+1, r2-1, c2-1, cache) 28 hasSquareOfZeroes(matrix, r1, c1+1, r2-1, c2, cache) 29 hasSquareOfZeroes(matrix, r1+1, c1, r2, c2-1, cache) 30 hasSquareOfZeroes(matrix, r1+1, c1+1, r2, c2, cache) 31 hasSquareOfZeroes(matrix, r1, c1, r2-1, c2-1, cache) 32 33 return cache[key] 34 } 35 36 // r1 is the top row, c1 is the left column 37 // r2 is the bottom row, c2 is the right column 38 ▾ func isSquareOfZeroes(matrix [][]int, r1, c1, r2, c2 int) bool { 39 ▾ for row := r1; row < r2+1; row++ { 40 ▾ if matrix[row][c1] != 0 matrix[row][c2] != 0 { 41 return false 42 } 43 } 44 45 ▾ for col := c1; col < c2+1; col++ { 46 ▾ if matrix[r1][col] != 0 matrix[r2][col] != 0 { 47 return false 48 } 49 } 50 return true 51 } 52</pre>			

