

Solution 1

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 class Program {
4     // O(n) time | O(n) space
5     func zigZagTraverse(array: [[Int]]) -> [Int] {
6         var result = [Int]()
7
8         var goingDown = true
9         var currentRow = 0
10        var currentColumn = 0
11
12        while currentRow < array.count, currentColumn < array[0].count {
13            result.append(array[currentRow][currentColumn])
14
15            if goingDown {
16                if currentColumn == 0 || currentRow == array.count - 1 {
17                    goingDown = false
18                    if currentRow == array.count - 1 {
19                        currentColumn += 1
20                    } else {
21                        currentRow += 1
22                    }
23                } else {
24                    currentRow += 1
25                    currentColumn -= 1
26                }
27            } else {
28                if currentRow == 0 || currentColumn == array[0].count - 1 {
29                    goingDown = true
30                    if currentColumn == array[0].count - 1 {
31                        currentRow += 1
32                    } else {
33                        currentColumn += 1
34                    }
35                } else {
36                    currentRow -= 1
37                    currentColumn += 1
38                }
39            }
40        }
41
42        return result
43    }
44 }
45
```