

Solution 1

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 // O(n) time | O(n) space - where n is the total number of elements in the two-dimensional array
4 function zigzagTraverse(array) {
5   const height = array.length - 1;
6   const width = array[0].length - 1;
7   const result = [];
8   let row = 0;
9   let col = 0;
10  let goingDown = true;
11  while (!isOutOfBounds(row, col, height, width)) {
12    result.push(array[row][col]);
13    if (goingDown) {
14      if (col === 0 || row === height) {
15        goingDown = false;
16        if (row === height) {
17          col++;
18        } else {
19          row++;
20        }
21      } else {
22        row++;
23        col--;
24      }
25    } else {
26      if (row === 0 || col === width) {
27        goingDown = true;
28        if (col === width) {
29          row++;
30        } else {
31          col++;
32        }
33      } else {
34        row--;
35        col++;
36      }
37    }
38  }
39  return result;
40 }
41
42 function isOutOfBounds(row, col, height, width) {
43   return row < 0 || row > height || col < 0 || col > width;
44 }
45
46 exports.zigzagTraverse = zigzagTraverse;
47
```