

Our Solution(s)	Run Code	Your Solutions	Run Code
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Solution 1

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 // O(wh) time | O(wh) space
4 function riverSizes(matrix) {
5   const sizes = [];
6   const visited = matrix.map(row => row.map(value => false));
7   for (let i = 0; i < matrix.length; i++) {
8     for (let j = 0; j < matrix[i].length; j++) {
9       if (visited[i][j]) continue;
10      traverseNode(i, j, matrix, visited, sizes);
11    }
12  }
13  return sizes;
14 }
15
16 function traverseNode(i, j, matrix, visited, sizes) {
17   let currentRiverSize = 0;
18   const nodesToExplore = [[i, j]];
19   while (nodesToExplore.length) {
20     const currentNode = nodesToExplore.pop();
21     i = currentNode[0];
22     j = currentNode[1];
23     if (visited[i][j]) continue;
24     visited[i][j] = true;
25     if (matrix[i][j] === 0) continue;
26     currentRiverSize++;
27     const unvisitedNeighbors = getUnvisitedNeighbors(i, j, matrix, visited);
28     for (const neighbor of unvisitedNeighbors) {
29       nodesToExplore.push(neighbor);
30     }
31   }
32   if (currentRiverSize > 0) sizes.push(currentRiverSize);
33 }
```

Solution 1

Solution 2

Solution 3

```
1 function riverSizes(matrix) {
2   // Write your code here.
3 }
4
5 // Do not edit the line below.
6 exports.riverSizes = riverSizes;
7
```

