

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 import java.util.*;
4
5 class Program {
6     // O(wh) time | O(wh) space
7     public static List<Integer> riverSizes(int[][] matrix) {
8         List<Integer> sizes = new ArrayList<Integer>();
9         boolean[][] visited = new boolean[matrix.length][matrix[0].length];
10        for (int i = 0; i < matrix.length; i++) {
11            for (int j = 0; j < matrix[0].length; j++) {
12                if (visited[i][j]) {
13                    continue;
14                }
15                traverseNode(i, j, matrix, visited, sizes);
16            }
17        }
18        return sizes;
19    }
20
21    public static void traverseNode(
22        int i, int j, int[][] matrix, boolean[][] visited, List<Integer> sizes) {
23        int currentRiverSize = 0;
24        List<Integer> nodesToExplore = new ArrayList<Integer>();
25        nodesToExplore.add(new Integer[] {i, j});
26        while (!nodesToExplore.isEmpty()) {
27            Integer[] currentNode = nodesToExplore.get(nodesToExplore.size() - 1);
28            nodesToExplore.remove(nodesToExplore.size() - 1);
29            i = currentNode[0];
30            j = currentNode[1];
31            if (visited[i][j]) {
32                continue;
33            }
```

Solution 1

Solution 2

Solution 3

```
1 import java.util.*;
2
3 class Program {
4     public static List<Integer> riverSizes(int[][] matrix) {
5         // Write your code here.
6         return null;
7     }
8 }
9
```

```
1 class ProgramTest {
2     static void Main() {
3         Console.WriteLine("Enter a number:");
4         int input = Console.ReadLine();
5         Console.WriteLine(input);
6         Console.WriteLine(input * 2);
7     }
8 }
9
10 class ProgramTest {
11     static void Main() {
12         Console.WriteLine("Enter a number:");
13         int input = Console.ReadLine();
14         Console.WriteLine(input);
15         Console.WriteLine(input * 2);
16     }
17 }
18
19 class ProgramTest {
20     static void Main() {
21         Console.WriteLine("Enter a number:");
22         int input = Console.ReadLine();
23         Console.WriteLine(input);
24         Console.WriteLine(input * 2);
25     }
26 }
27
28 class ProgramTest {
29     static void Main() {
30         Console.WriteLine("Enter a number:");
31         int input = Console.ReadLine();
32         Console.WriteLine(input);
33         Console.WriteLine(input * 2);
34     }
35 }
```

Run or submit code when you're ready.