

LeetCode 200

Description

Given a 2d grid map of '1's (land) and '0's (water), count the number of islands. An island is surrounded by water and is formed by connecting adjacent lands horizontally or vertically. You may assume all four edges of the grid are all surrounded by water.

Example 1:

11110

11010

11000

00000

Answer: 1

Example 2:

11000

11000

00100

00011

Answer: 3

Credits:

Special thanks to [@mithmatt](#) for adding this problem and creating all test cases.

Solution

```
class Solution{

    private int n;
    private int m;

    public int numIslands(char[][] grid) {
        int count = 0;
        n = grid.length;
        if (n == 0) return 0;
        m = grid[0].length;
        for (int i = 0; i < n; i++){
            for (int j = 0; j < m; j++){
                if (grid[i][j] == '1') {
                    DFSMarking(grid, i, j);
                }
            }
        }
        return count;
    }
}
```

```
        ++count;
    }
}
return count;
}

private void DFSMarking(char[][] grid, int i, int j) {
    if (i < 0 || j < 0 || i >= n || j >= m || grid[i][j] != '1') return;
    grid[i][j] = '0';
    DFSMarking(grid, i + 1, j);
    DFSMarking(grid, i - 1, j);
    DFSMarking(grid, i, j + 1);
    DFSMarking(grid, i, j - 1);
}
}
```