

Problem 200: Number of Islands

Problem Information

Difficulty: Medium

Acceptance Rate: 63.30%

Paid Only: No

Tags: Array, Depth-First Search, Breadth-First Search, Union Find, Matrix

Problem Description

Given an $m \times n$ 2D binary grid `grid` which represents a map of '1's (land) and '0's (water), return 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:

```
**Input:** grid = [ ["1","1","1","1","0"], ["1","1","0","1","0"], ["1","1","0","0","0"], ["0","0","0","0","0"] ]  
**Output:** 1
```

Example 2:

```
**Input:** grid = [ ["1","1","0","0","0"], ["1","1","0","0","0"], ["0","0","1","0","0"], ["0","0","0","1","1"] ]  
**Output:** 3
```

Constraints:

* $m == \text{grid.length}$ * $n == \text{grid[i].length}$ * $1 \leq m, n \leq 300$ * grid[i][j] is '0' or '1'.

Code Snippets

C++:

```
class Solution {
public:
    int numIslands(vector<vector<char>>& grid) {
        }
    };
}
```

Java:

```
class Solution {
public int numIslands(char[][] grid) {
    }
}
```

Python3:

```
class Solution:
    def numIslands(self, grid: List[List[str]]) -> int:
```