

Question #4 (Very Hard)

Description:

Implement a JavaScript function named `findIslands` that counts the number of islands in a given 2D map. An island is defined as a group of adjacent lands, where "land" is represented by 1 and "water" is represented by 0. Two pieces of land are considered part of the same island if they are adjacent horizontally or vertically (but not diagonally).

Constraints:

- The map is represented as a 2D array of integers, where 0 represents water and 1 represents land.
- The map can be of any size, potentially very large.
- An island is a group of one or more 1s (lands) connected vertically or horizontally (but not diagonally).
- The edges of the map are surrounded by water.

Starting Code

```
function findIslands(map) {  
    // Write your code here  
}
```

Sample Input

```
const map1 = [  
    [1, 1, 0, 0, 0],  
    [0, 1, 0, 0, 1],  
    [1, 0, 0, 1, 1],  
    [0, 0, 0, 0, 0],  
    [1, 0, 1, 0, 1]  
];  
findIslands(map)
```

Sample Output

```
6
```