5847. Find All Groups of Farmland

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User Accepted:	1520
User Tried:	1724
Total Accepted:	1523
Total Submissions:	2119
Difficulty:	Medium

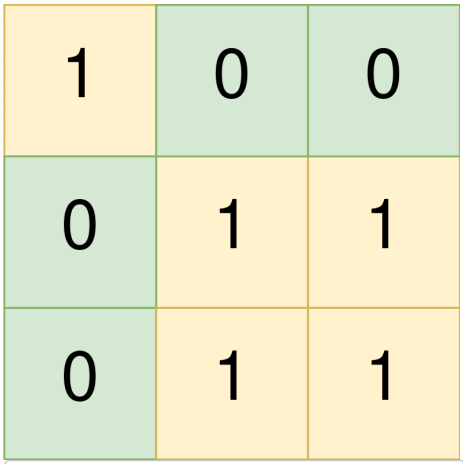
You are given a **0-indexed** `m x n` binary matrix `land` where a `0` represents a hectare of forested land and a `1` represents a hectare of farmland.

To keep the land organized, there are designated rectangular areas of hectares that consist **entirely** of farmland. These rectangular areas are called **groups**. No two groups are adjacent, meaning farmland in one group is **not** four-directionally adjacent to another farmland in a different group.

`land` can be represented by a coordinate system where the top left corner of `land` is `(0, 0)` and the bottom right corner of `land` is `(m-1, n-1)`. Find the coordinates of the top left and bottom right corner of each **group** of farmland. A **group** of farmland with a top left corner at (r_1, c_1) and a bottom right corner at (r_2, c_2) is represented by the 4-length array $[r_1, c_1, r_2, c_2]$.

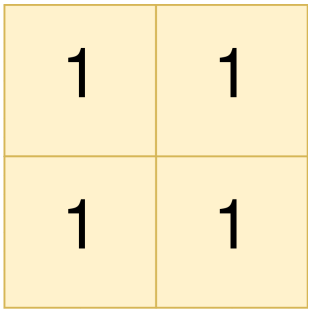
Return *a 2D array containing the 4-length arrays described above for each **group** of farmland in* `land`. *If there are no groups of farmland, return an empty array. You may return the answer in **any order***.

Example 1:



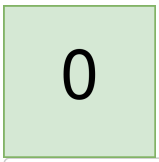

```
Input: land = [[1,0,0],[0,1,1],[0,1,1]]
Output: [[0,0,0,0],[1,1,2,2]]
Explanation:
The first group has a top left corner at land[0][0] and a bottom right corner at land[0][0].
The second group has a top left corner at land[1][1] and a bottom right corner at land[2][2].
```

Example 2:



```
Input: land = [[1,1],[1,1]]
Output: [[0,0,1,1]]
Explanation:
The first group has a top left corner at land[0][0] and a bottom right corner at land[1][1].
```

Example 3:




```
Input: land = [[0]]
Output: []
Explanation:
There are no groups of farmland.
```

Constraints:

- `m == land.length`
- `n == land[i].length`
- `1 <= m, n <= 300`
- `land` consists of only `0`'s and `1`'s.
- Groups of farmland are **rectangular** in shape.

JavaScript

```javascript
const dirs = [[0, -1], [-1, 0], [0, 1], [1, 0]];

let n, m
const findFarmland = (g) => {
    n = g.length, m = g[0].length;
    let se = new Set();
    for (let i = 0; i < n; ++i) {
        for (let j = 0; j < m; ++j) {
            if (g[i][j] != 1) continue;
            let path = [];
            dfs(g, i, j, path);
            se.add(path);
        }
    }
    // pr(se);
    let res = [];
    for (let group of se) {
        group.sort((x, y) => (x[0] + x[1]) - (y[0] + y[1]));
        // pr(group);
        let topLeft = group[0];
        let bottomRight = group[group.length - 1];
        res.push(topLeft.concat(bottomRight));
    }
    return res;
};

const dfs = (g, i, j, path) => {
    if (i < 0 || i >= n || j < 0 || j >= m || g[i][j] <= 0) return;
    g[i][j] *= -1;
    path.push([i, j]);
    for (let dir of dirs) {
        dfs(g, i + dir[0], j + dir[1], path);
    }
};
```

Custom Testcase Use Example Testcases

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