

75 Days of Code Day 23 Problem no:2352. Equal Row and Column Pairs (leetcode)

Type Hashmap /Sets

Given a 0-indexed $n \times n$ integer matrix grid, return the number of pairs (ri, cj) such that row ri and column cj are equal.

A row and column pair is considered equal if they contain the same elements in the same order (i.e., an equal array).

Example 1:

Input: grid = [[3,2,1],[1,7,6],[2,7,7]]

Output: 1

Explanation: There is 1 equal row and column pair:

- (Row 2, Column 1): [2,7,7]

Example 2:

Input: grid = [[3,1,2,2],[1,4,4,5],[2,4,2,2],[2,4,2,2]]

Output: 3

Explanation: There are 3 equal row and column pairs:

- (Row 0, Column 0): [3,1,2,2]

- (Row 2, Column 2): [2,4,2,2]

- (Row 3, Column 2): [2,4,2,2]

Solution using brute force

- One loop for row iteration
- Another for column iteration
- Again one as we have check one row for all the columns so

```

23
24 function equalPairs(grid: number[][]): number {
25     let countRowCol = 0;
26     for (let row = 0; row < grid.length; row++) {
27         for (let col = 0; col < grid.length; col++) {
28             let rowCol = 0;
29
30             for (; rowCol < grid.length; rowCol++) {
31                 if (grid[row][rowCol] !== grid[rowCol][col]) {
32                     break;
33                 }
34             }
35             if (rowCol === grid.length) countRowCol++;
36         }
37     }
38     return countRowCol;
39 }
40
41 let ans = equalPairs([
42     [3, 1, 2, 2],
43     [1, 4, 4, 5],
44     [2, 4, 2, 2],
45     [2, 4, 2, 2],
46 ]);
47 console.log("Answer : ", ans);
48

```

Solution of above problem using in Optimize way using map

1. Create a map of row ,in which row elements are keys and row's repetition is the value
2. Use a two for loop to iterate through the columns of the matrix and create a column
3. Check if the column exist in row map , if exist check its value (which is its count) then add to original count

```

43 function equalPairs(grid: number[][]): number {
44     let count = 0;
45     let rowMap = new Map<string, number>();
46
47     for (let row of grid) {
48         let key = row.join(",");
49         rowMap.set(key, (rowMap.get(key) ?? 0) + 1);
50     }
51
52     for (let row = 0; row < grid.length; row++) {
53         const column = [];
54
55         for (let col = 0; col < grid.length; col++) {
56             column.push(grid[col][row]);
57         }
58
59         if (rowMap.has(column.join(","))) {
60             count += rowMap.get(column.join(","));
61         }
62     }
63     return count;
64 }
65
66 let ans = equalPairs([
67     [3, 1, 2, 2],
68     [1, 4, 4, 5],
69     [2, 4, 2, 2],
70     [2, 4, 2, 2],
71 ]);
72 console.log("Answer : ", ans);
73

```

testcase

result

Accepted Runtime: 99 ms

• Case 1

• Case 2

Input

```
grid =  
[[3,2,1],[1,7,6],[2,7,7]]
```

Output

```
1
```

Expected

Console ▾