6277. Difference Between Ones and Zeros in Row and Column

My Submissions (/contest/biweekly-contest-92/problems/difference-between-ones-and-zeros-in-row-and-column/submissions/)

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User Accepted:	0
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Total Accepted:	0
Total Submissions:	0
Difficulty:	Medium

You are given a **0-indexed** `m x n` binary matrix `grid`.

A **0-indexed** `m x n` difference matrix `diff` is created with the following procedure:

- Let the number of ones in the i^{th} row be $onesRow_i$.
- Let the number of ones in the j^{th} column be $onesCol_j$.
- Let the number of zeros in the i^{th} row be $zerosRow_i$.
- Let the number of zeros in the j^{th} column be $zerosCol_j$.
- `diff[i][j] =` $onesRow_i + onesCol_j - zerosRow_i - zerosCol_j$

Return *the difference matrix* `diff`.

Example 1:

grid

0	1	1
1	0	1
0	0	1

diff

0	0	4
0	0	4
-2	-2	2

```
Input: grid = [[0,1,1],[1,0,1],[0,0,1]]
Output: [[0,0,4],[0,0,4],[-2,-2,2]]
Explanation:
- diff[0][0] = onesRow0 + onesCol0 - zerosRow0 - zerosCol0 = 2 + 1 - 1 - 2 = 0
- diff[0][1] = onesRow0 + onesCol1 - zerosRow0 - zerosCol1 = 2 + 1 - 1 - 2 = 0
- diff[0][2] = onesRow0 + onesCol2 - zerosRow0 - zerosCol2 = 2 + 3 - 1 - 0 = 4
- diff[1][0] = onesRow1 + onesCol0 - zerosRow1 - zerosCol0 = 2 + 1 - 1 - 2 = 0
- diff[1][1] = onesRow1 + onesCol1 - zerosRow1 - zerosCol1 = 2 + 1 - 1 - 2 = 0
- diff[1][2] = onesRow1 + onesCol2 - zerosRow1 - zerosCol2 = 2 + 3 - 1 - 0 = 4
- diff[2][0] = onesRow2 + onesCol0 - zerosRow2 - zerosCol0 = 1 + 1 - 2 - 2 = -2
- diff[2][1] = onesRow2 + onesCol1 - zerosRow2 - zerosCol1 = 1 + 1 - 2 - 2 = -2
- diff[2][2] = onesRow2 + onesCol2 - zerosRow2 - zerosCol2 = 1 + 3 - 2 - 0 = 2
```

Example 2:

grid

1	1	1
1	1	1

diff

5	5	5
5	5	5

```
Input: grid = [[1,1,1],[1,1,1]]
Output: [[5,5,5],[5,5,5]]
Explanation:
- diff[0][0] = onesRow0 + onesCol0 - zerosRow0 - zerosCol0 = 3 + 2 - 0 - 0 = 5
- diff[0][1] = onesRow0 + onesCol1 - zerosRow0 - zerosCol1 = 3 + 2 - 0 - 0 = 5
- diff[0][2] = onesRow0 + onesCol2 - zerosRow0 - zerosCol2 = 3 + 2 - 0 - 0 = 5
- diff[1][0] = onesRow1 + onesCol0 - zerosRow1 - zerosCol0 = 3 + 2 - 0 - 0 = 5
- diff[1][1] = onesRow1 + onesCol1 - zerosRow1 - zerosCol1 = 3 + 2 - 0 - 0 = 5
- diff[1][2] = onesRow1 + onesCol2 - zerosRow1 - zerosCol2 = 3 + 2 - 0 - 0 = 5
```

Constraints:

- `m == grid.length`
- `n == grid[i].length`

- $1 <= m, n <= 10^5$
- $1 <= m * n <= 10^5$
- `grid[i][j]` is either `0` or `1`.

JavaScript

```
const initialize2DArray = (n, m) => { let d = []; for (let i = 0; i < n; i++) { let t = Array(m).fill(0); d.push(t); }
return d; };

const onesMinusZeros = (g) => {
    let n = g.length, m = g[0].length, onesRow = [], zerosRow = [], onesCol = [], zerosCol = [], res =
initialize2DArray(n, m);
    for (let i = 0; i < n; i++) {
        let oneRow = 0, zeroRow = 0;
        for (let j = 0; j < m; j++) g[i][j] ? oneRow++ : zeroRow++;
        onesRow.push(oneRow);
        zerosRow.push(zeroRow);
    }
    for (let j = 0; j < m; j++) {
        let oneCol = 0, zeroCol = 0;
        for (let i = 0; i < n; i++) g[i][j] ? oneCol++ : zeroCol++;
        onesCol.push(oneCol);
        zerosCol.push(zeroCol);
    }
    for (let i = 0; i < n; i++) {
        for (let j = 0; j < m; j++) {
            let v = onesRow[i] + onesCol[j] - zerosRow[i] - zerosCol[j];
            res[i][j] = v;
        }
    }
    return res;
};
```

Custom Testcase | Use Example Testcases

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