# 0

# 6440. Difference of Number of Distinct Values on Diagonals

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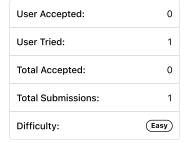
Given a  $\mathbf{0}$ -indexed 2D grid of size m x n, you should find the matrix answer of size m x n.

The value of each cell (r, c) of the matrix answer is calculated in the following way:

- Let topLeft[r][c] be the number of distinct values in the top-left diagonal of the cell (r, c) in the matrix grid.
- Let bottomRight[r][c] be the number of distinct values in the bottom-right diagonal of the cell (r, c) in the matrix grid.

Then answer[r][c] = |topLeft[r][c] - bottomRight[r][c]|.

Return the matrix answer.



A matrix diagonal is a diagonal line of cells starting from some cell in either the topmost row or leftmost column and going in the bottom-right direction until reaching the matrix's end.

A cell (r<sub>1</sub>, c<sub>1</sub>) belongs to the top-left diagonal of the cell (r, c), if both belong to the same diagonal and r<sub>1</sub> < r. Similarly is defined bottom-right diagonal.

#### Example 1:

1	2	3
3	1	5
3	2	1

1	2	3
3	1	5
3	2	1

1	2	3
3	1	5
3	2	1

1	2	3
3	1	5
3	2	1

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

Output: [[1,1,0],[1,0,1],[0,1,1]]

Explanation: The 1st diagram denotes the initial grid.

The 2<sup>nd</sup> diagram denotes a grid for cell (0,0), where blue-colored cells are cells on its bottom-right diagonal.

The 3<sup>rd</sup> diagram denotes a grid for cell (1,2), where red-colored cells are cells on its top-left diagonal.

The 4<sup>th</sup> diagram denotes a grid for cell (1,1), where blue-colored cells are cells on its bottom-right diagonal and red-colored c - The cell (0,0) contains [1,1] on its bottom-right diagonal and [] on its top-left diagonal. The answer is |1-0|=1.

- The cell (1,2) contains [] on its bottom-right diagonal and [2] on its top-left diagonal. The answer is |0-1|=1.
- The cell (1,1) contains [1] on its bottom-right diagonal and [1] on its top-left diagonal. The answer is |1-1|=0.

The answers of other cells are similarly calculated.

### Example 2:

**Input:** grid = [[1]] Output: [[0]] Explanation: – The cell (0,0) contains [] on its bottom-right diagonal and [] on its top-left diagonal. The answer is |0-0| =

## Constraints:

- m == grid.length
- n == grid[i].length
- 1 <= m, n, grid[i][j] <= 50





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```
const initialize2DArray = (n, m) => [...Array(n)].map(() => Array(m).fill(-1));
3 r const differenceOfDistinctValues = (q) ⇒ {
4
       let n = g.length, m = g[0].length, res = initialize2DArray(n, m);
5 •
       for (let i = 0; i < n; i++) {
```

for (let j = 0; j < m; j++) {

```
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```

 $\ \square$  Custom Testcase

Use Example Testcases

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