

5454. Count Submatrices With All Ones

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Given a $\text{rows} \times \text{columns}$ matrix `mat` of ones and zeros, return how many **submatrices** have all ones.

Example 1:

Input: `mat = [[1,0,1],
[1,1,0],
[1,1,0]]`

Output: 13

Explanation:

There are 6 rectangles of side 1x1.

There are 2 rectangles of side 1x2.

There are 3 rectangles of side 2x1.

There is 1 rectangle of side 2x2.

There is 1 rectangle of side 3x1.

Total number of rectangles = $6 + 2 + 3 + 1 + 1 = 13$.

User Accepted: 0

User Tried: 0

Total Accepted: 0

Total Submissions: 0

Difficulty: Medium

Example 2:

Input: `mat = [[0,1,1,0],
[0,1,1,1],
[1,1,1,0]]`

Output: 24

Explanation:

There are 8 rectangles of side 1x1.

There are 5 rectangles of side 1x2.

There are 2 rectangles of side 1x3.

There are 4 rectangles of side 2x1.

There are 2 rectangles of side 2x2.

There are 2 rectangles of side 3x1.

There is 1 rectangle of side 3x2.

Total number of rectangles = $8 + 5 + 2 + 4 + 2 + 2 + 1 = 24$.

Example 3:

Input: `mat = [[1,1,1,1,1,1]]`

Output: 21

Example 4:

Input: mat = [[1,0,1],[0,1,0],[1,0,1]]**Output:** 5**Constraints:**

- 1 <= rows <= 150
- 1 <= columns <= 150
- 0 <= mat[i][j] <= 1

JavaScript ▼



```
1 ▾ /**
2   * @param {number[][]} mat
3   * @return {number}
4   */
5 ▾ var numSubmat = function(mat) {
6
7   };
```

☐ Custom Testcase

Use Example Testcases

Run

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