

6053. Count Unguarded Cells in the Grid

[My Submissions \(/contest/biweekly-contest-77/problems/count-unguarded-cells-in-the-grid/submissions/\)](#)
[Back to Contest \(/contest/biweekly-contest-77/\)](#)

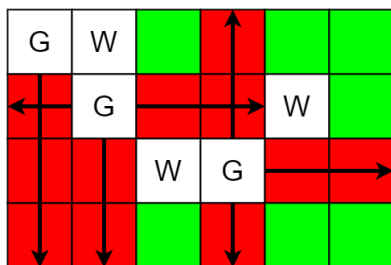
You are given two integers m and n representing a **0-indexed** $m \times n$ grid. You are also given two 2D integer arrays `guards` and `walls` where `guards[i] = [rowi, coli]` and `walls[j] = [rowj, colj]` represent the positions of the i^{th} guard and j^{th} wall respectively.

A guard can see **every** cell in the four cardinal directions (north, east, south, or west) starting from their position unless **obstructed** by a wall or another guard. A cell is **guarded** if there is **at least** one guard that can see it.

Return the number of unoccupied cells that are **not guarded**.

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

Example 1:

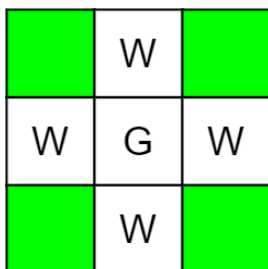


Input: $m = 4$, $n = 6$, `guards = [[0,0],[1,1],[2,3]]`, `walls = [[0,1],[2,2],[1,4]]`

Output: 7

Explanation: The guarded and unguarded cells are shown in red and green respectively in the above diagram. There are a total of 7 unguarded cells, so we return 7.

Example 2:



Input: $m = 3$, $n = 3$, `guards = [[1,1]]`, `walls = [[0,1],[1,0],[2,1],[1,2]]`

Output: 4

Explanation: The unguarded cells are shown in green in the above diagram. There are a total of 4 unguarded cells, so we return 4.

Constraints:

- $1 \leq m, n \leq 10^5$
- $2 \leq m * n \leq 10^5$
- $1 \leq \text{guards.length}, \text{walls.length} \leq 5 * 10^4$
- $2 \leq \text{guards.length} + \text{walls.length} \leq m * n$
- `guards[i].length == walls[j].length == 2`
- $0 \leq \text{row}_i, \text{row}_j < m$
- $0 \leq \text{col}_i, \text{col}_j < n$
- All the positions in `guards` and `walls` are **unique**.

JavaScript



```
1 const initialize2DArray = (n, m) => { let d = []; for (let i = 0; i < n; i++) { let t = Array(m).fill(0); d.push(t); }
  return d; };
2
3 const hit = (cur) => {
4   if (cur == 'W') return true;
```

```

5     if (cur == 'G') return true;
6     return false;
7 }
8
9 ▾ const countUnguarded = (n, m, guards, walls) => {
10     let visit = initialize2DArray(n, m), cnt = 0;
11     for (const [x, y] of walls) visit[x][y] = 'W';
12     for (const [x, y] of guards) visit[x][y] = 'G';
13 ▾     for (const [x, y] of guards) {
14 ▾         for (let j = y + 1; j < m; j++) { // right
15             if (hit(visit[x][j])) break;
16             visit[x][j] = "R";
17         }
18 ▾         for (let j = y - 1; j >= 0; j--) { // left
19             if (hit(visit[x][j])) break;
20             visit[x][j] = "R";
21         }
22 ▾         for (let i = x + 1; i < n; i++) { // down
23             if (hit(visit[i][y])) break;
24             visit[i][y] = "R";
25         }
26 ▾         for (let i = x - 1; i >= 0; i--) { // up
27             if (hit(visit[i][y])) break;
28             visit[i][y] = "R";
29         }
30     }
31     // pr(visit);
32 ▾     for (let i = 0; i < n; i++) {
33 ▾         for (let j = 0; j < m; j++) {
34             if (visit[i][j] == 0) cnt++;
35         }
36     }
37     return cnt;
38 };


```

☐ Custom Testcase[Use Example Testcases](#)[Run](#)[Submit](#)Submission Result: **Accepted** (/submissions/detail/690316856/) ⓘ[More Details > \(/submissions/detail/690316856/\)](#)

Share your acceptance!

◀ 1

Copyright © 2022 LeetCode

[Help Center \(/support\)](#) | [Jobs \(/jobs\)](#) | [Bug Bounty \(/bugbounty\)](#) | [Online Interview \(/interview/\)](#) | [Students \(/student\)](#) | [Terms \(/terms\)](#) | [Privacy Policy \(/privacy\)](#) [United States \(/region\)](#)