5203. Count Artifacts That Can Be Extracted

My Submissions (/contest/weekly-contest-284/problems/count-artifacts-that-can-be-extracted/submissions/)

Back to Contest (/contest/weekly-contest-284/)

There is an `n x n` **0-indexed** grid with some artifacts buried in it. You are given the integer `n` and a **0-indexed** 2D integer array `artifacts` describing the positions of the rectangular artifacts where `artifacts[i] = [r1_i, c1_i, r2_i, c2_i]` denotes that the `i^th` artifact is buried in the subgrid where:

- `(r1_i, c1_i)` is the coordinate of the **top-left** cell of the `i^th` artifact and
- `(r2_i, c2_i)` is the coordinate of the **bottom-right** cell of the `i^th` artifact.

You will excavate some cells of the grid and remove all the mud from them. If the cell has a part of an artifact buried underneath, it will be uncovered. If all the parts of an artifact are uncovered, you can extract it.

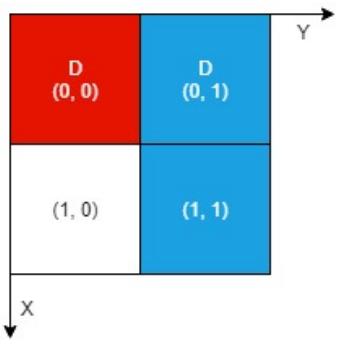
User Accepted:	0
User Tried:	0
Total Accepted:	0
Total Submissions:	0
Difficulty:	Medium

Given a **0-indexed** 2D integer array `dig` where `dig[i] = [r_i, c_i]` indicates that you will excavate the cell `(r_i, c_i)`, return *the number of artifacts that you can extract*.

The test cases are generated such that:

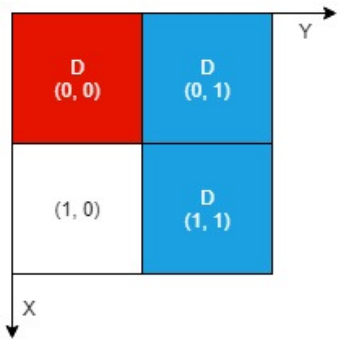
- No two artifacts overlap.
- Each artifact only covers at most `4` cells.
- The entries of `dig` are unique.

Example 1:




```
Input: n = 2, artifacts = [[0,0,0,0],[0,1,1,1]], dig = [[0,0],[0,1]]
Output: 1
Explanation:
The different colors represent different artifacts. Excavated cells are labeled with a 'D' in the grid.
There is 1 artifact that can be extracted, namely the red artifact.
The blue artifact has one part in cell (1,1) which remains uncovered, so we cannot extract it.
Thus, we return 1.
```

Example 2:




```
Input: n = 2, artifacts = [[0,0,0,0],[0,1,1,1]], dig = [[0,0],[0,1],[1,1]]
Output: 2
Explanation: Both the red and blue artifacts have all parts uncovered (labeled with a 'D') and can be ex
```

Constraints:

- `1 <= n <= 1000`
- `1 <= artifacts.length, dig.length <= min(n^2, 10^5)`
- `artifacts[i].length == 4`
- `dig[i].length == 2`
- `0 <= r1_i, c1_i, r2_i, c2_i, r_i, c_i <= n - 1`
- `r1_i <= r2_i`
- `c1_i <= c2_i`
- No two artifacts will overlap.
- The number of cells covered by an artifact is **at most** `4`.
- The entries of `dig` are unique.

JavaScript

```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 mi = Math.min, mx = Math.max;
const digArtifacts = (n, artifacts, dig) => {
    let vis = initialize2DArray(n, n), res = 0;
    for (const [x, y] of dig) vis[x][y] = 1;
    for (const [x1, y1, x2, y2] of artifacts) {
        let xmin = mi(x1, x2), xmax = mx(x1, x2), ymin = mi(y1, y2), ymax = mx(y1, y2);
        let ok = true;
        for (let x = xmin; x <= xmax; x++) {
            for (let y = ymin; y <= ymax; y++) {
                if (vis[x][y] == 0) ok = false;
            }
        }
        if (ok) res++;
    }
    return res;
};
```

Custom Testcase Use Example Testcases

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Submission Result: Accepted (/submissions/detail/658807077/)

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1