2201. Count Artifacts That Can Be Extracted

Description

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.

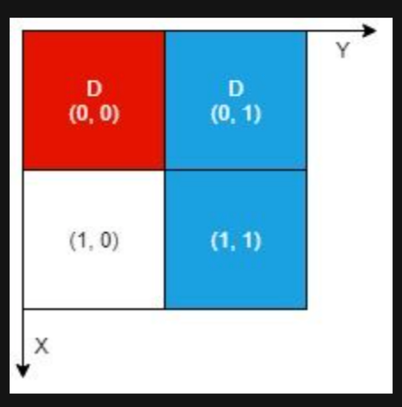
You will excavate some cells of the grid and remove all the mud from them. If the cell has a part of an artifact buried underneath, it will be uncovered. If all the parts of an artifact are uncovered, you can extract it.

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:

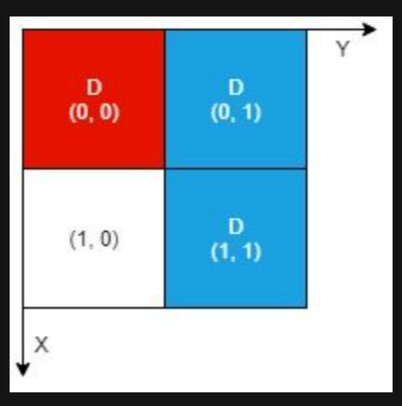
- No two artifacts overlap.
- Each artifact only covers at most `4` cells.
- The entries of `dig` are unique.

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 extracted, so we return 2.
```

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.