Problem 2536: Increment Submatrices by One

Problem Information

Difficulty: Medium
Acceptance Rate: 73.83%
Paid Only: No
Tags: Array, Matrix, Prefix Sum

Problem Description

You are given a positive integer `n`, indicating that we initially have an `n x n` **0-indexed** integer matrix `mat` filled with zeroes.

You are also given a 2D integer array `query`. For each `query[i] = [row1i, col1i, row2i, col2i]`, you should do the following operation:

* Add `1` to **every element** in the submatrix with the **top left** corner `(row1i, col1i)` and the **bottom right** corner `(row2i, col2i)`. That is, add `1` to `mat[x][y]` for all `row1i <= x <= row2i` and `col1i <= y <= col2i`.

Return _the matrix_ `mat` _after performing every query._

Example 1:

Input: n = 3, queries = [[1,1,2,2],[0,0,1,1]] **Output:** [[1,1,0],[1,2,1],[0,1,1]]
Explanation: The diagram above shows the initial matrix, the matrix after the first query, and the matrix after the second query. - In the first query, we add 1 to every element in the submatrix with the top left corner (1, 1) and bottom right corner (2, 2). - In the second query, we add 1 to every element in the submatrix with the top left corner (0, 0) and bottom right corner (1, 1).

Example 2:

Input: n = 2, queries = [[0,0,1,1]] **Output:** [[1,1],[1,1]] **Explanation:** The diagram above shows the initial matrix and the matrix after the first query. - In the first query we add 1 to every element in the matrix.

Constraints:

* `1 <= n <= 500` * `1 <= queries.length <= 104` * `0 <= row1i <= row2i < n` * `0 <= col1i <= col2i < n`

Code Snippets

C++:

```
class Solution {
public:
vector<vector<int>> rangeAddQueries(int n, vector<vector<int>>& queries) {


}
};
```

Java:

```
class Solution {
public int[][] rangeAddQueries(int n, int[][] queries) {


}
}
```

Python3:

```
class Solution:
def rangeAddQueries(self, n: int, queries: List[List[int]]) ->
List[List[int]]:
```