850. Rectangle Area II

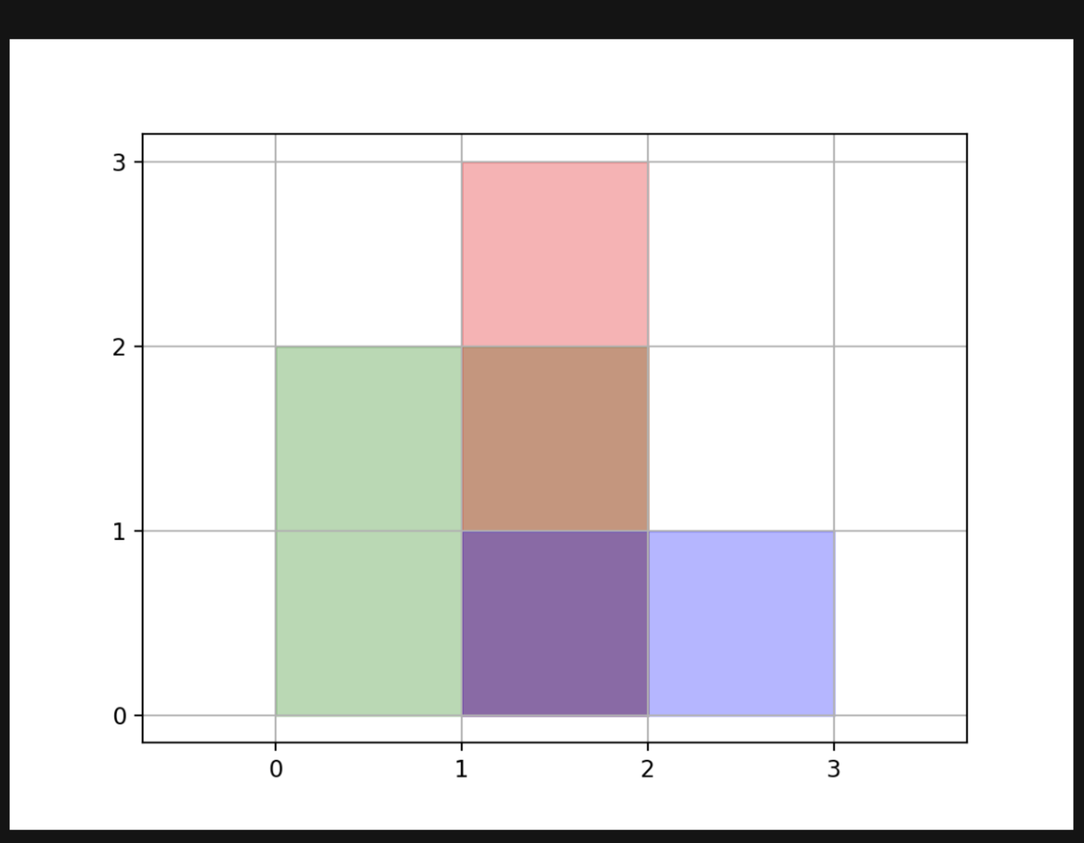
Description

You are given a 2D array of axis-aligned `rectangles`. Each `rectangle[i] = [x i1 , y i1 , x i2 , y i2 ]` denotes the `i th` rectangle where `(x i1 , y i1 )` are the coordinates of the **bottom-left corner**, and `(x i2 , y i2 )` are the coordinates of the **top-right corner**.

Calculate the **total area** covered by all `rectangles` in the plane. Any area covered by two or more rectangles should only be counted **once**.

Return *the* ***total area***. Since the answer may be too large, return it **modulo** `10 9 + 7`.

Example 1:




```
Input: rectangles = [[0,0,2,2],[1,0,2,3],[1,0,3,1]]
Output: 6
Explanation: A total area of 6 is covered by all three rectangles, as illustrated in the picture.
From (1,1) to (2,2), the green and red rectangles overlap.
From (1,0) to (2,3), all three rectangles overlap.
```

Example 2:

```
Input: rectangles = [[0,0,1000000000,1000000000]]
Output: 49
Explanation: The answer is 10 18 modulo (10 9 + 7), which is 49.
```

Constraints:

- `1 <= rectangles.length <= 200`
- `rectanges[i].length == 4`
- `0 <= x i1 , y i1 , x i2 , y i2 <= 10 9`
- `x i1 <= x i2`
- `y i1 <= y i2`