2237. Count Positions on Street With Required Brightness

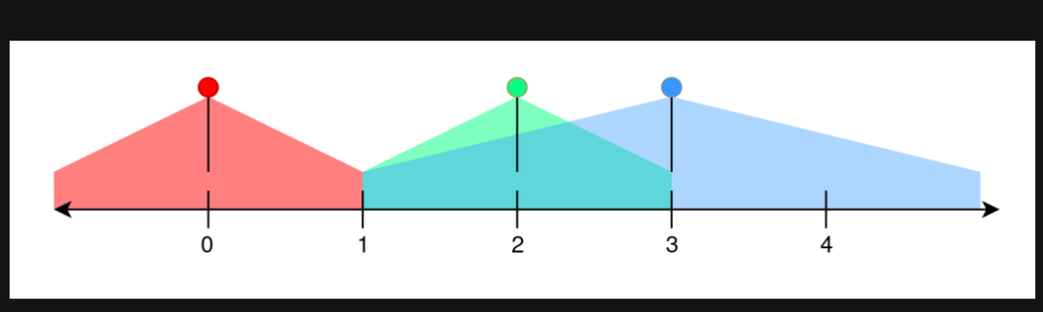
Description

You are given an integer `n`. A perfectly straight street is represented by a number line ranging from `0` to `n - 1`. You are given a 2D integer array `lights` representing the street lamp(s) on the street. Each `lights[i] = [position_i, range_i]` indicates that there is a street lamp at position `position_i` that lights up the area from `[max(0, position_i - range_i), min(n - 1, position_i + range_i)]` (**inclusive**).

The **brightness** of a position `p` is defined as the number of street lamps that light up the position `p`. You are given a **0-indexed** integer array `requirement` of size `n` where `requirement[i]` is the minimum **brightness** of the `i^th` position on the street.

Return *the number of positions* `i` *on the street between* `0` *and* `n - 1` *that have a* ***brightness*** *of* ***at least*** `requirement[i]`.

Example 1:




```
Input: n = 5, lights = [[0,1],[2,1],[3,2]], requirement = [0,2,1,4,1]
Output: 4
Explanation:
- The first street lamp lights up the area from [max(0, 0 - 1), min(n - 1, 0 + 1)] = [0, 1] (inclusive).
- The second street lamp lights up the area from [max(0, 2 - 1), min(n - 1, 2 + 1)] = [1, 3] (inclusive).
- The third street lamp lights up the area from [max(0, 3 - 2), min(n - 1, 3 + 2)] = [1, 4] (inclusive).

-   Position 0 is covered by the first street lamp. It is covered by 1 street lamp which is greater than requirement[0].
-   Position 1 is covered by the first, second, and third street lamps. It is covered by 3 street lamps which is greater than requirement[1].
-   Position 2 is covered by the second and third street lamps. It is covered by 2 street lamps which is greater than requirement[2].
-   Position 3 is covered by the second and third street lamps. It is covered by 2 street lamps which is less than requirement[3].
-   Position 4 is covered by the third street lamp. It is covered by 1 street lamp which is equal to requirement[4].

Positions 0, 1, 2, and 4 meet the requirement so we return 4.
```

Example 2:

```
Input: n = 1, lights = [[0,1]], requirement = [2]
Output: 0
Explanation:
- The first street lamp lights up the area from [max(0, 0 - 1), min(n - 1, 0 + 1)] = [0, 0] (inclusive).
- Position 0 is covered by the first street lamp. It is covered by 1 street lamp which is less than requirement[0].
- We return 0 because no position meets their brightness requirement.
```

Constraints:

- `1 <= n <= 10^5`
- `1 <= lights.length <= 10^5`
- `0 <= position_i < n`
- `0 <= range_i <= 10^5`
- `requirement.length == n`
- `0 <= requirement[i] <= 10^5`