findland

This is a function that outputs the number of pieces of land amongst a list of overlapping rectangular regions.

Detailed problem statement -

"You are given a list of two-dimensional axis-aligned rectangular boxes that are either contained within or disjoint from (non-overlapping with) one another. They, therefore, partition the plane into a number of regions. The unbounded region, which lies outside all of the boxes, is classified as “sea”. All other regions are classified either as “sea” or as “land”, subject to the constraint that no two regions that share a boundary may share the same classification. The task is to output the number of regions classified as “land”.

You can expect each box to be defined in terms of the Cartesian coordinates of its minimum corner {a, b} and its maximum corner {c, d} such that a < c and b < d. If you make any other assumptions as part of your solution then please make comments in the code. If there are further considerations that might affect the memory use or performance of your solution then do make a note of them."

Assumptions made by the code

1. There is at least one piece of land
2. The rectangles appear in a certain order where a rectangle is followed by the ones that it overlaps with. If they appear before the rectangle in question, then the results returned by the code are wrong.
3. The input is a list of lists - a list where each element is a list of coordinates a,b,c and d.

Input Format

Output

Total number of pieces of land.