

2345. Finding the Number of Visible Mountains Premium

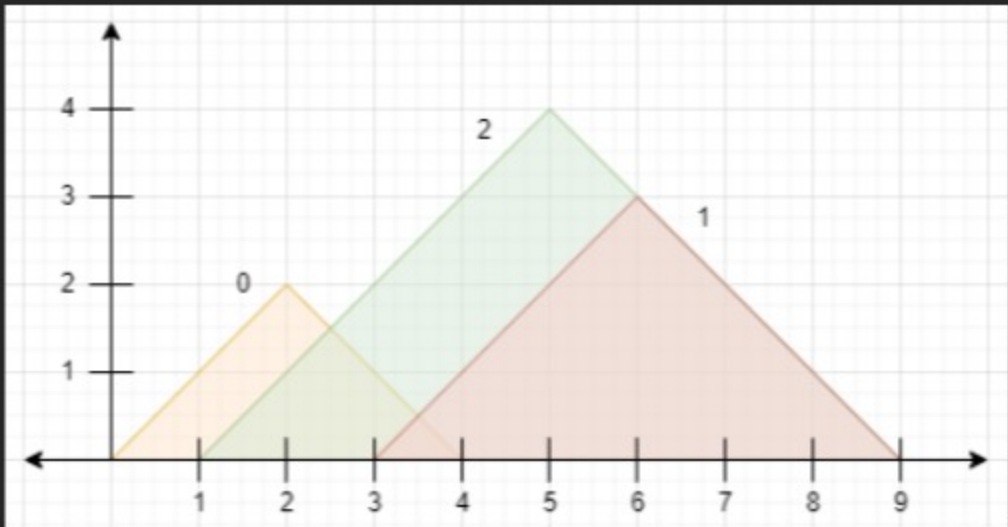
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You are given a **0-indexed** 2D integer array `peaks` where `peaks[i] = [xi, yi]` states that mountain `i` has a peak at coordinates `(xi, yi)`. A mountain can be described as a right-angled isosceles triangle, with its base along the `x`-axis and a right angle at its peak. More formally, the **gradients** of ascending and descending the mountain are `1` and `-1` respectively.

A mountain is considered **visible** if its peak does not lie within another mountain (including the border of other mountains).

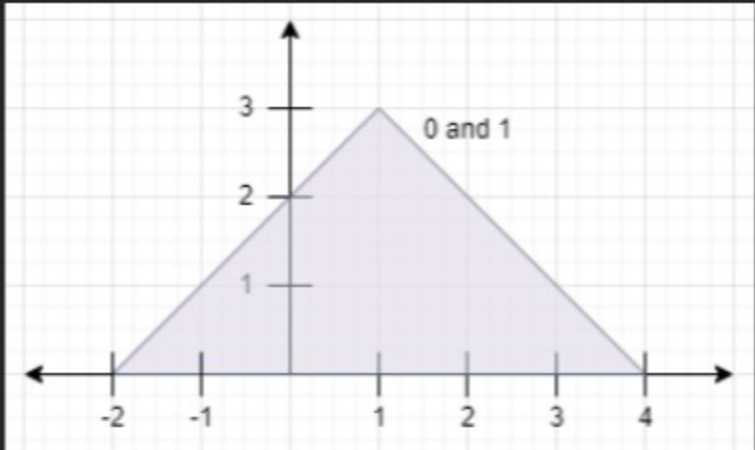
Return *the number of visible mountains*.

Example 1:



Input: `peaks = [[2,2],[6,3],[5,4]]`
Output: `2`
Explanation: The diagram above shows the mountains.
– Mountain 0 is visible since its peak does not lie within another mountain or its sides.
– Mountain 1 is not visible since its peak lies within the side of mountain 2.
– Mountain 2 is visible since its peak does not lie within another mountain or its sides.
There are 2 mountains that are visible.

Example 2:



Input: `peaks = [[1,3],[1,3]]`
Output: `0`
Explanation: The diagram above shows the mountains (they completely overlap).
Both mountains are not visible since their peaks lie within each other.

Constraints:

- `1 <= peaks.length <= 105`
- `peaks[i].length == 2`
- `1 <= xi, yi <= 105`

Seen this question in a real interview before? 1/5

Yes No

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Hint 1

How can we efficiently find for each mountain the relevant mountains to compare itself against to check whether or not it would be visible?

Hint 2

Do you notice a pattern after sorting the peaks by their x-coordinates?

Hint 3

After sorting, process the peaks sequentially and use a monotonic stack to store currently visible mountains.

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