2001. Number of Pairs of Interchangeable Rectangles

Medium Topics Hint

You are given `n` rectangles represented by a **0-indexed** 2D integer array `rectangles`, where `rectangles[i] = [width_i, height_i]` denot

Two rectangles `i` and `j` (`i < j`) are considered **interchangeable** if they have the **same** width-to-height ratio. More formally, two rectang

Return *the **number** of pairs of **interchangeable** rectangles in* `rectangles`.

Example 1:

```
Input: rectangles = [[4,8],[3,6],[10,20],[15,30]]
Output: 6
Explanation: The following are the interchangeable pairs of rectangles by index (0-indexed):
- Rectangle 0 with rectangle 1: 4/8 == 3/6.
- Rectangle 0 with rectangle 2: 4/8 == 10/20.
- Rectangle 0 with rectangle 3: 4/8 == 15/30.
- Rectangle 1 with rectangle 2: 3/6 == 10/20.
- Rectangle 1 with rectangle 3: 3/6 == 15/30.
- Rectangle 2 with rectangle 3: 10/20 == 15/30.
```

Example 2:

```
Input: rectangles = [[4,5],[7,8]]
Output: 0
Explanation: There are no interchangeable pairs of rectangles.
```

Constraints:

- `n == rectangles.length`
- `1 <= n <= 10^5`
- `rectangles[i].length == 2`
- `1 <= width_i, height_i <= 10^5`

Seen this question in a real interview before? 1/4

Yes No

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Topics

Hint 1

Hint 2

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