1459. Rectangles Area

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SQL Schema > Pandas Schema >

Table: `Points`

```
+---------------+---------+
| Column Name   | Type    |
+---------------+---------+
| id            | int     |
| x_value       | int     |
| y_value       | int     |
+---------------+---------+
id is the column with unique values for this table.
Each point is represented as a 2D coordinate (x_value, y_value).
```

Write a solution to report all possible **axis-aligned** rectangles with a **non-zero area** that can be formed by any two points from the `Points` table.
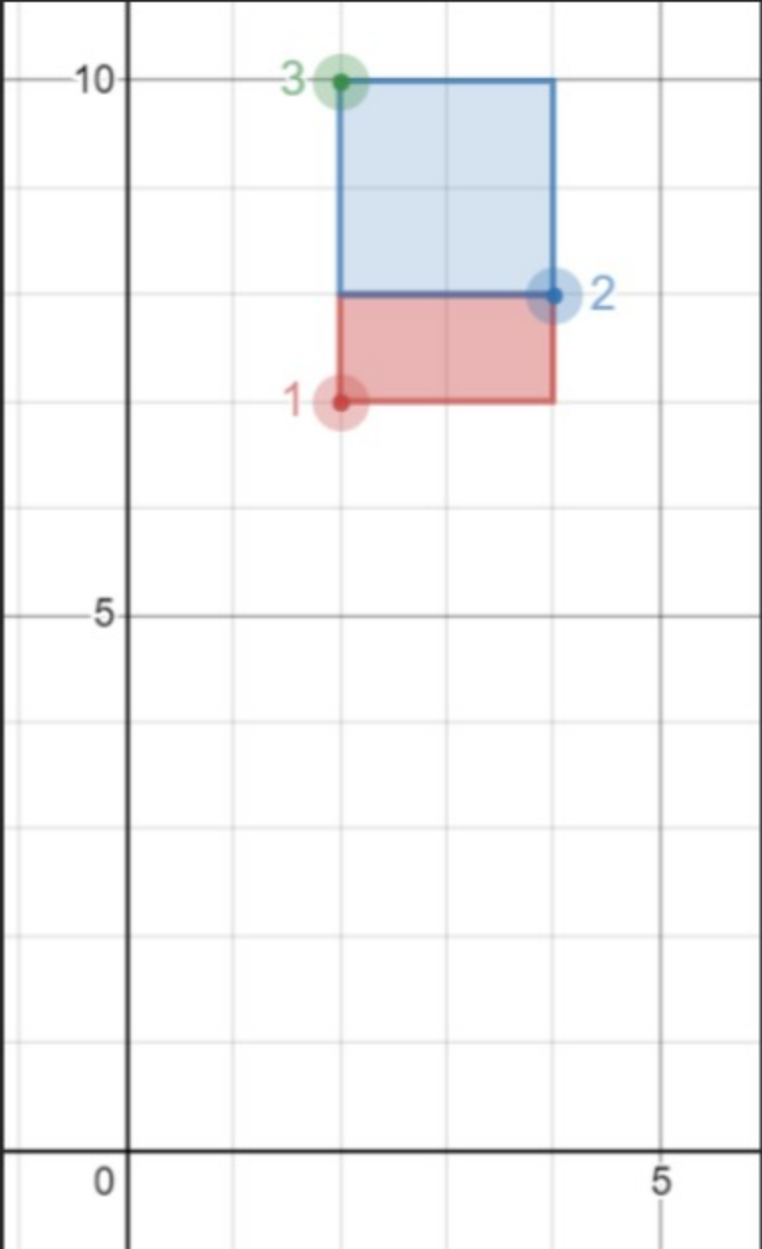
Each row in the result should contain three columns `(p1, p2, area)` where:

- `p1` and `p2` are the `id`'s of the two points that determine the opposite corners of a rectangle.

- `area` is the area of the rectangle and must be **non-zero**.

Return the result table **ordered by** `area` **in descending order**. If there is a tie, order them by `p1` **in ascending order**. If there is still a tie, order them by `p2` **in ascending order**.

The result format is in the following table.

Example 1:


```
Input:
Points table:
+-------+-----------+-----------+
| id    | x_value   | y_value   |
+-------+-----------+-----------+
| 1     | 2         | 7         |
| 2     | 4         | 8         |
| 3     | 2         | 10        |
+-------+-----------+-----------+
Output:
+-------+-------+-----------+
| p1    | p2    | area      |
+-------+-------+-----------+
| 2     | 3     | 4         |
| 1     | 2     | 2         |
+-------+-------+-----------+
Explanation:
The rectangle formed by p1 = 2 and p2 = 3 has an area equal to |4-2| * |8-10| = 4.
The rectangle formed by p1 = 1 and p2 = 2 has an area equal to |2-4| * |7-8| = 2.
Note that the rectangle formed by p1 = 1 and p2 = 3 is invalid because the area is 0.
```

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

Yes   No

Accepted **18K** | Submissions **26.3K** | Acceptance Rate **68.5%**

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0 - 6 months

x 2

Discussion (2)