Problem 3705: Find Golden Hour Customers

Problem Information

Difficulty: Medium
Acceptance Rate: 37.83%
Paid Only: No

Problem Description

Table: `restaurant_orders`

+------------------+----------+ | Column Name | Type | +------------------+----------+ | order_id | int | | customer_id | int | | order_timestamp | datetime | | order_amount | decimal | | payment_method | varchar | | order_rating | int | +------------------+----------+ order_id is the unique identifier for this table. payment_method can be cash, card, or app. order_rating is between 1 and 5, where 5 is the best (NULL if not rated). order_timestamp contains both date and time information.

Write a solution to find **golden hour customers** \- customers who consistently order during peak hours and provide high satisfaction. A customer is a **golden hour customer** if they meet ALL the following criteria:

* Made **at least** `3` orders. * **At least** `60%` of their orders are during **peak hours **(`11:00`-`14:00` or `18:00`-`21:00`). * Their **average rating** for rated orders is at least `4.0,` round it to` 2 `decimal places. * Have rated **at least** `50%` of their orders.

Return _the result table ordered by_ `average_rating` _in**descending** order, then by_ `customer_id`■■■■■■■ _in**descending** order_.

The result format is in the following example.

Example:

Input:

restaurant_orders table:

+----------+-------------+---------------------+--------------+----------------+--------------+ | order_id | customer_id | order_timestamp | order_amount | payment_method | order_rating | +----------+-------------+---------------------+--------------+----------------+--------------+ | 1 | 101 | 2024-03-01 12:30:00 | 25.50 | card | 5 | | 2 | 101 | 2024-03-02 19:15:00 | 32.00 | app | 4 | | 3 | 101 | 2024-03-03 13:45:00 | 28.75 | card | 5 | | 4 | 101 | 2024-03-04 20:30:00 | 41.00 | app | NULL | | 5 | 102 | 2024-03-01 11:30:00 | 18.50 | cash | 4 | | 6 | 102 | 2024-03-02 12:00:00 | 22.00 | card | 3 | | 7 | 102 | 2024-03-03 15:30:00 | 19.75 | cash | NULL | | 8 | 103 | 2024-03-01 19:00:00 | 55.00 | app | 5 | | 9 | 103 | 2024-03-02 20:45:00 | 48.50 | app | 4 | | 10 | 103 | 2024-03-03 18:30:00 | 62.00 | card | 5 | | 11 | 104 | 2024-03-01 10:00:00 | 15.00 | cash | 3 | | 12 | 104 | 2024-03-02 09:30:00 | 18.00 | cash | 2 | | 13 | 104 | 2024-03-03 16:00:00 | 20.00 | card | 3 | | 14 | 105 | 2024-03-01 12:15:00 | 30.00 | app | 4 | | 15 | 105 | 2024-03-02 13:00:00 | 35.50 | app | 5 | | 16 | 105 | 2024-03-03 11:45:00 | 28.00 | card | 4 | +----------+-------------+---------------------+--------------+----------------+--------------+

Output:

+-------------+--------------+----------------------+----------------+ | customer_id | total_orders | peak_hour_percentage | average_rating | +-------------+--------------+----------------------+----------------+ | 103 | 3 | 100 | 4.67 | | 101 | 4 | 100 | 4.67 | | 105 | 3 | 100 | 4.33 | +-------------+--------------+----------------------+----------------+

Explanation:

* **Customer 101** : * Total orders: 4 (at least 3) * Peak hour orders: 4 out of 4 (12:30, 19:15, 13:45, and 20:30 are in peak hours) * Peak hour percentage: 100% (at least 60%) * Rated orders: 3 out of 4 (75% rating completion) * Average rating: (5+4+5)/3 = 4.67 (at least 4.0) * Result: **Golden hour customer** * **Customer 102** : * Total orders: 3 (at least 3) * Peak hour orders: 2 out of 3 (11:30, 12:00 are in peak hours; 15:30 is not) * Peak hour percentage: 2/3 = 66.67% (at least 60%) * Rated orders: 2 out of 3 (66.67% rating completion) * Average rating: (4+3)/2 = 3.5 (less than 4.0) * Result: **Not a golden hour customer** (average rating too low) * **Customer 103** : * Total orders: 3 (at least 3) * Peak hour orders: 3 out of 3 (19:00, 20:45, 18:30 all in evening peak) * Peak hour percentage: 3/3 = 100% (at least 60%) * Rated orders: 3 out of 3 (100% rating completion) * Average rating: (5+4+5)/3 = 4.67 (at least 4.0) * Result: **Golden hour customer** * **Customer 104** : * Total orders: 3 (at least 3) * Peak hour orders: 0 out of 3 (10:00, 09:30, 16:00 all outside peak hours) * Peak hour percentage: 0/3 = 0% (less than 60%) * Result: **Not a golden hour customer** (insufficient peak hour orders) * **Customer 105** : * Total orders: 3 (at least 3) * Peak hour orders: 3 out of 3 (12:15, 13:00, 11:45 all in lunch peak) * Peak hour percentage: 3/3 = 100% (at least 60%) * Rated orders: 3 out of 3 (100% rating completion) * Average rating: (4+5+4)/3 = 4.33 (at least 4.0) * Result: **Golden hour customer**

The results table is ordered by average_rating DESC, then customer_id DESC.

Code Snippets

MySQL:

```
# Write your MySQL query statement below
```

MS SQL Server:

```
/* Write your T-SQL query statement below */
```

PostgreSQL:

```
-- Write your PostgreSQL query statement below
```