Problem 3705: Find Golden Hour Customers

Problem Information

Difficulty: Medium
Acceptance Rate: 0.00%
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
```

Oracle:

```
/* Write your PL/SQL query statement below */
```

Pandas:

```
import pandas as pd

def find_golden_hour_customers(restaurant_orders: pd.DataFrame) ->
pd.DataFrame:
```

Solutions

MySQL Solution:

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

MS SQL Server Solution:

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

PostgreSQL Solution:

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

Oracle Solution:

```
/* Write your PL/SQL query statement below */
```

Pandas Solution:

```
import pandas as pd

def find_golden_hour_customers(restaurant_orders: pd.DataFrame) ->
pd.DataFrame:
```