Problem 2783: Flight Occupancy and Waitlist Analysis

Problem Information

Difficulty: Medium
Acceptance Rate: 0.00%
Paid Only: No

Problem Description

Table:

Flights

+-------------+------+ | Column Name | Type | +-------------+------+ | flight_id | int | | capacity | int | +-------------+------+

flight_id

is the column with unique values for this table. Each row of this table contains flight id and its capacity.

Table:

Passengers

+--------------+------+ | Column Name | Type | +--------------+------+ | passenger_id | int | | flight_id | int | +--------------+------+ passenger_id is the column with unique values for this table. Each row of this table contains passenger id and flight id.

Passengers book tickets for flights in advance. If a passenger books a ticket for a flight and there are still empty seats available on the flight, the passenger ticket will be

confirmed

. However, the passenger will be on a

waitlist

if the flight is already at full capacity.

Write a solution to report the number of passengers who successfully booked a flight (got a seat) and the number of passengers who are on the waitlist for each flight.

Return the result table ordered by

flight_id

in

ascending

order

.

The result format is in the following example.

Example 1:

Input:

Flights table: +-----------+----------+ | flight_id | capacity | +-----------+----------+ | 1 | 2 | | 2 | 2 | | 3 | 1 | +-----------+----------+ Passengers table: +--------------+-----------+ | passenger_id | flight_id | +--------------+-----------+ | 101 | 1 | | 102 | 1 | | 103 | 1 | | 104 | 2 | | 105 | 2 | | 106 | 3 | | 107 | 3 | +--------------+-----------+

Output:

+-----------+------------+--------------+ | flight_id | booked_cnt | waitlist_cnt | +-----------+------------+--------------+ | 1 | 2 | 1 | | 2 | 2 | 0 | | 3 | 1 | 1 | +-----------+------------+--------------+

Explanation:

- Flight 1 has a capacity of 2. As there are 3 passengers who have booked tickets, only 2 passengers can get a seat. Therefore, 2 passengers are successfully booked, and 1 passenger is on the waitlist. - Flight 2 has a capacity of 2. Since there are exactly 2 passengers who booked tickets, everyone can secure a seat. As a result, 2 passengers successfully booked their seats and there are no passengers on the waitlist. - Flight 3 has a capacity of 1. As there are 2 passengers who have booked tickets, only 1 passenger can get a seat. Therefore, 1 passenger is successfully booked, and 1 passenger is on the waitlist.

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 waitlist_analysis(flights: pd.DataFrame, passengers: pd.DataFrame) ->
pd.DataFrame:
```

Solutions

MySQL Solution:

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