Problem List

Description | Accepted | Editorial | Solutions | Submissions

2793. Status of Flight Tickets

Premium

Solved

Hard

SQL Schema > Pandas Schema >

Table: `Flights`

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

`flight_id` column contains distinct values.
Each row of this table contains flight id and capacity.

Table: `Passengers`

```
+--------------+----------+
| Column Name  | Type     |
+--------------+----------+
| passenger_id | int      |
| flight_id    | int      |
| booking_time | datetime |
+--------------+----------+
```

passenger_id column contains distinct values.
booking_time column contains distinct values.
Each row of this table contains passenger id, booking time, and their 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's ticket will be **confirmed**. However, the passenger will be on a **waitlist** if the flight is already at full capacity.

Write a solution to determine the current status of flight tickets for each passenger.

Return the result table ordered by `passenger_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 | booking_time        |
+--------------+-----------+---------------------+
| 101          | 1         | 2023-07-10 16:30:00 |
| 102          | 1         | 2023-07-10 17:45:00 |
| 103          | 1         | 2023-07-10 12:00:00 |
| 104          | 2         | 2023-07-05 13:23:00 |
| 105          | 2         | 2023-07-05 09:00:00 |
| 106          | 3         | 2023-07-08 11:10:00 |
| 107          | 3         | 2023-07-08 09:10:00 |
+--------------+-----------+---------------------+
```

Output:

```
+--------------+-----------+
| passenger_id | Status    |
+--------------+-----------+
| 101          | Confirmed |
| 102          | Waitlist  |
| 103          | Confirmed |
| 104          | Confirmed |
| 105          | Confirmed |
| 106          | Waitlist  |
| 107          | Confirmed |
+--------------+-----------+
```

Explanation:
- Flight 1 has a capacity of 2 passengers. Passenger 101 and Passenger 103 were the first to book tickets, securing the available seats. Therefore, their bookings are confirmed. However, Passenger 102 was the third person to book a ticket for this flight, which means there are no more available seats. Passenger 102 is now placed on the waitlist,
- Flight 2 has a capacity of 2 passengers, Flight 2 has exactly two passengers who booked tickets, Passenger 104 and Passenger 105. Since the number of passengers who booked tickets matches the available seats, both bookings are confirmed.
- Flight 3 has a capacity of 1 passenger. Passenger 107 booked earlier and secured the only available seat, confirming their booking. Passenger 106, who booked after Passenger 107, is on the waitlist.

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

Yes No

Accepted 3,247/4.2K | Acceptance Rate 78.0%

Discussion (11)

12 11 0 Online

Submit

Code

Pandas • Auto

```python
import pandas as pd

def ticket_status(flights: pd.DataFrame, passengers: pd.DataFrame) -> pd.DataFrame:

    df = pd.merge(flights, passengers, on='flight_id')
    df['rank'] = df.groupby('flight_id')['booking_time'].rank(method='min')
    df['Status'] = np.where(df['rank'] <= df['capacity'], 'Confirmed', 'Waitlist')

    return df[['passenger_id', 'Status']].sort_values(by='passenger_id')


```

Saved Ln 11, Col 1

Testcase | Test Result

```
| 103          | 1         | 2023-07-10 12:00:00 |
| 104          | 2         | 2023-07-05 13:23:00 |
| 105          | 2         | 2023-07-05 09:00:00 |
| 106          | 3         | 2023-07-08 11:10:00 |
```

View more

Output

```
| passenger_id | Status    |
| ------------ | --------- |
| 101          | Confirmed |
| 102          | Waitlist  |
| 103          | Confirmed |
| 104          | Confirmed |
| 105          | Confirmed |
| 106          | Waitlist  |
```