**Please answer the following questions using Airline DB database.**

**Instruction to attempt questions:**

* Students need to write queries for the questions mentioned in the using Airline DB database
* Read the questions carefully before writing the query in **Airline Playground** (in the Playground chapter of SQL)
* Airline DB: [https://www.skillovilla.com/playground/sql?exerciseId=0181e251-6ea8-4595-ae2b-0c690119f8db](file:///C:\Users\dell\Desktop\•%09https:\www.skillovilla.com\playground\sql%3fexerciseId=0181e251-6ea8-4595-ae2b-0c690119f8db)

**How to submit the capstone:**

* Copy the SQL query code and paste it in the answer section in this file.
* Once the assignment is done, submit the file over LMS.

**Invalid Submissions:**

* Pasting pictures of the code as answer is **NOT** acceptable.
* Uploading output data (CSVs) of the SQL queries is **NOT** acceptable.

**Write your answers(query) in the answer and submit it. To write the answer in the assignment, please follow the below example in yellow**

Example:

Questions*: Extract all the columns of the flights table*

Answer: *SELECT \* FROM flights*

**Attempt the following Questions-**

1. ***Represent the “book\_date” column in “yyyy-mmm-dd” format using Bookings table***

*Expected output: book\_ref, book\_date (in “yyyy-mmm-dd” format) , total amount*

**Answer: select**

**book\_ref,**

**to\_char(book\_date,'yyyy-mon-dd') as book\_date,**

**total\_amount**

**From BOOKINGS**

1. **Get the following columns in the exact same sequence.**

Expected columns in the output: ticket\_no, boarding\_no, seat\_number, passenger\_id, passenger\_name.

**Answer: select**

**b.ticket\_no,**

**b.boarding\_no,**

**b.seat\_no,**

**t.passenger\_id,**

**t.passenger\_name**

**From BOARDING\_PASSES b**

**Join TICKETS t**

**ON b.ticket\_no=t.ticket\_no**

1. **Write a query to find the seat number which is least allocated among all the seats?**

**Answer:**  **select**

**min(seat\_no)**

**From BOARDING\_PASSES**

**group by seat\_no**

**order by seat\_no ASC**

**Limit 1**

1. ***In the database, identify the month wise highest paying passenger name and passenger id.***

Expected output: Month\_name(“mmm-yy” format), passenger\_id, passenger\_name and total amount

**Answer: WITH MonthlyTotals AS (**

**SELECT**

**passenger\_id,**

**passenger\_name,**

**TO\_CHAR(book\_date, 'Mon-YY') AS Month\_Name,**

**SUM(total\_amount) AS Total\_Amount**

**FROM**

**TICKETS t**

**JOIN BOOKINGS b**

**ON t.book\_ref=b.book\_ref**

**GROUP BY**

**passenger\_id, passenger\_name, TO\_CHAR(book\_date, 'Mon-YY')**

**),**

**RankedTotals AS (**

**SELECT**

**passenger\_id,**

**passenger\_name,**

**Month\_Name,**

**Total\_Amount,**

**ROW\_NUMBER() OVER (**

**PARTITION BY Month\_Name**

**ORDER BY Total\_Amount DESC**

**) AS rn**

**FROM**

**MonthlyTotals**

**)**

**SELECT**

**Month\_Name,**

**passenger\_id,**

**passenger\_name,**

**Total\_Amount**

**FROM**

**RankedTotals**

**WHERE**

**rn = 1**

**limit 1;**

1. ***In the database, identify the month wise least paying passenger name and passenger id?***

Expected output: Month\_name(“mmm-yy” format), passenger\_id, passenger\_name and total amount

**Answer: WITH MonthlyTotals AS (**

**SELECT**

**passenger\_id,**

**passenger\_name,**

**TO\_CHAR(book\_date, 'Mon-YY') AS Month\_Name,**

**SUM(total\_amount) AS Total\_Amount**

**FROM**

**TICKETS t**

**JOIN BOOKINGS b**

**ON t.book\_ref=b.book\_ref**

**GROUP BY**

**passenger\_id, passenger\_name, TO\_CHAR(book\_date, 'Mon-YY')**

**),**

**RankedTotals AS (**

**SELECT**

**passenger\_id,**

**passenger\_name,**

**Month\_Name,**

**Total\_Amount,**

**ROW\_NUMBER() OVER (**

**PARTITION BY Month\_Name**

**ORDER BY Total\_Amount ASC**

**) AS rn**

**FROM**

**MonthlyTotals**

**)**

**SELECT**

**Month\_Name,**

**passenger\_id,**

**passenger\_name,**

**Total\_Amount**

**FROM**

**RankedTotals**

**WHERE**

**rn = 1**

**limit 1;**

1. **Identify the travel details of non stop journeys or return journeys (having more than 1 flight).**

Expected Output: Passenger\_id, passenger\_name, ticket\_number and flight count.

**Answer: with nonstopjourneys as (**

**select**

**t.passenger\_id,**

**t.passenger\_name,**

**t.ticket\_no,**

**count(f.flight\_id) as flight\_count**

**From TICKETS t**

**Join TICKET\_FLIGHTS tf**

**On tf.ticket\_no=t.ticket\_no**

**Join FLIGHTS f**

**On f.flight\_id=tf.flight\_id**

**where f.departure\_airport=f.arrival\_airport**

**group by t.passenger\_id,t.passenger\_name, t.ticket\_no**

**),**

**Returnjourneys as (select**

**t.passenger\_id,**

**t.passenger\_name,**

**t.ticket\_no,**

**count(distinct f.flight\_id) as Flight\_count**

**From TICKETS t**

**Join TICKET\_FLIGHTS tf**

**On tf.ticket\_no=t.ticket\_no**

**Join FLIGHTS f**

**On f.flight\_id=tf.flight\_id**

**group by t.passenger\_id,t.passenger\_name, t.ticket\_no**

**Having count(distinct f.flight\_id)>1)**

**select**

**passenger\_id,**

**passenger\_name,**

**ticket\_no,**

**Flight\_count**

**from nonstopjourneys**

**union**

**select**

**passenger\_id,**

**passenger\_name,**

**ticket\_no,**

**Flight\_count**

**from Returnjourneys**

1. **How many tickets are there without boarding passes?**

Expected Output: just one number is required.

**Answer: SELECT COUNT(\*)**

**FROM TICKETS t**

**LEFT JOIN BOARDING\_PASSES b ON t.ticket\_no = b.ticket\_no**

**WHERE b.ticket\_no IS NULL**

1. **Identify details of the longest flight (using flights table)?**

Expected Output: Flight number, departure airport, arrival airport, aircraft code and durations.

**Answer: SELECT**

**flight\_no,**

**departure\_airport,**

**arrival\_airport,**

**aircraft\_code,**

**EXTRACT(EPOCH FROM (scheduled\_arrival - scheduled\_departure)) / 3600 AS Durations**

**FROM**

**FLIGHTS**

**ORDER BY**

**Durations DESC**

**LIMIT 1;**

1. **Identify details of all the morning flights (morning means between 6AM to 11 AM, using flights table)?**

Expected output: flight\_id, flight\_number, scheduled\_departure, scheduled\_arrival and timings.

**Answer: SELECT**

**flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**scheduled\_arrival,**

**TO\_CHAR(scheduled\_departure, 'HH24:MI') AS Timings**

**FROM**

**Flights**

**WHERE**

**EXTRACT(HOUR FROM scheduled\_departure) >= 6**

**AND EXTRACT(HOUR FROM scheduled\_departure) < 11**

**ORDER BY**

**scheduled\_departure;**

1. **Identify the earliest morning flight available from every airport.**

Expected output: flight\_id, flight\_number, scheduled\_departure, scheduled\_arrival, departure airport and timings.

**Answer: WITH MorningFlights AS (**

**SELECT**

**flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**scheduled\_arrival,**

**departure\_airport,**

**TO\_CHAR(scheduled\_departure, 'HH24:MI') AS Timings**

**FROM**

**FLIGHTS**

**WHERE**

**EXTRACT(HOUR FROM scheduled\_departure) >= 6**

**AND EXTRACT(HOUR FROM scheduled\_departure) < 11**

**),**

**EarliestFlights AS (**

**SELECT**

**departure\_airport,**

**MIN(scheduled\_departure) AS EarliestDeparture**

**FROM**

**MorningFlights**

**GROUP BY**

**departure\_airport**

**)**

**SELECT**

**m.flight\_id,**

**m.flight\_no,**

**m.scheduled\_departure,**

**m.scheduled\_arrival,**

**m.departure\_airport,**

**m.Timings**

**FROM**

**MorningFlights m**

**JOIN**

**EarliestFlights e**

**ON**

**m.departure\_airport = e.departure\_airport**

**AND m.scheduled\_departure = e.EarliestDeparture**

**ORDER BY**

**m.departure\_airport;**

1. **Questions:** **Find list of airport codes in Europe/Moscow timezone**

Expected Output: Airport\_code.

**Answer: SELECT DISTINCT**

**airport\_code**

**FROM**

**AIRPORTS**

**WHERE**

**Timezone = 'Europe/Moscow';**

1. **Write a query to get the count of seats in various fare condition for every aircraft code?**

Expected Outputs: Aircraft\_code, fare\_conditions ,seat count

**Answer: SELECT**

**s.aircraft\_code,**

**s.fare\_conditions,**

**COUNT(s.seat\_no) AS Seat\_Count**

**FROM**

**SEATS s**

**GROUP BY**

**s.aircraft\_code,**

**s.fare\_conditions**

**ORDER BY**

**s.aircraft\_code,**

**s.fare\_conditions;**

1. **How many aircrafts codes have at least one Business class seats?**

Expected Output : Count of aircraft codes

**Answer: select**

**count(distinct a.aircraft\_code) as Count\_of\_aircraft\_codes**

**From AIRCRAFTS a**

**Join SEATS s**

**ON a.aircraft\_code=a.aircraft\_code**

**where fare\_conditions='Business'**

1. **Find out the name of the airport having maximum number of departure flight**

Expected Output : Airport\_name

**Answer: WITH DepartureCounts AS (**

**SELECT**

**f.departure\_airport,**

**a.airport\_name,**

**COUNT(\*) AS DepartureCount**

**FROM**

**FLIGHTS f**

**JOIN**

**AIRPORTS a ON f.departure\_airport = a.airport\_code**

**GROUP BY**

**f.departure\_airport, a.airport\_name**

**),**

**MaxDepartures AS (**

**SELECT**

**airport\_name,**

**DepartureCount**

**FROM**

**DepartureCounts**

**ORDER BY**

**DepartureCount DESC**

**LIMIT 1**

**)**

**SELECT**

**airport\_name**

**FROM**

**MaxDepartures;**

1. **Find out the name of the airport having least number of scheduled departure flights**

Expected Output : Airport\_name

**Answer: WITH DepartureCounts AS (**

**SELECT**

**f.departure\_airport,**

**a.airport\_name,**

**COUNT(\*) AS DepartureCount**

**FROM**

**FLIGHTS f**

**JOIN**

**AIRPORTS a ON f.departure\_airport = a.airport\_code**

**GROUP BY**

**f.departure\_airport, a.airport\_name**

**),**

**MinDepartures AS (**

**SELECT**

**airport\_name,**

**DepartureCount**

**FROM**

**DepartureCounts**

**ORDER BY**

**DepartureCount ASC**

**LIMIT 1**

**)**

**SELECT**

**airport\_name**

**FROM**

**MinDepartures;**

1. **How many flights from ‘DME’ airport don’t have actual departure?**

Expected Output : Flight Count

**Answer: select**

**count(flight\_id) as Flight\_count**

**From FLIGHTS**

**Where departure\_airport='DME' AND actual\_departure is null**

1. **Identify flight ids having range between 3000 to 6000**

Expected Output : Flight\_Number , aircraft\_code, ranges

**Answer: select**

**f.flight\_no as Flight\_number,**

**f.aircraft\_code,**

**ac.range**

**From FLIGHTS f**

**Join AIRCRAFTS ac**

**ON f.aircraft\_code=ac.aircraft\_code**

**WHERE range between 3000 and 6000**

1. **Write a query to get the count of flights flying between URS and KUF?**

Expected Output : Flight\_count

**Answer: select**

**count(flight\_id)as flight\_count**

**from FLIGHTS**

**Where (departure\_airport='URS' AND arrival\_airport='KUF') OR (departure\_airport='KUF' AND arrival\_airport='URS')**

1. **Write a query to get the count of flights flying from either from NOZ or KRR?**

Expected Output : Flight count

**Answer: select**

**count(flight\_id)as flight\_count**

**from FLIGHTS**

**Where departure\_airport IN ('NOZ', 'KRR')**

1. **Write a query to get the count of flights flying from KZN,DME,NBC,NJC,GDX,SGC,VKO,ROV**

Expected Output : Departure airport ,count of flights flying from these airports.

**Answer: select**

**departure\_airport,**

**count(flight\_id) as count\_of\_flights**

**from FLIGHTS**

**WHERE departure\_airport IN ('KZN','DME','NBC','NJC','GDX','SGC','VKO','ROV')**

**Group by departure\_airport**

1. **Write a query to extract flight details having range between 3000 and 6000 and flying from DME**

Expected Output :Flight\_no,aircraft\_code,range,departure\_airport

**Answer: select**

**f.flight\_no,**

**f.aircraft\_code,**

**ac.range,**

**f.departure\_airport**

**from FLIGHTS f**

**JOIN AIRCRAFTS ac**

**ON f.aircraft\_code=ac.aircraft\_code**

**WHERE range between 3000 and 6000 AND departure\_airport='DME'**

1. **Find the list of flight ids which are using aircrafts from “Airbus” company and got cancelled or delayed**

Expected Output : Flight\_id,aircraft\_model

**Answer: select**

**f.flight\_id,**

**ac.model as aircraft\_model**

**From FLIGHTS f**

**Join AIRCRAFTS ac**

**ON f.aircraft\_code=ac.aircraft\_code**

**Where model='%Airbus%' AND (status='Cancelled' OR status='Delayed')**

1. **Find the list of flight ids which are using aircrafts from “Boeing” company and got cancelled or delayed**

Expected Output : Flight\_id,aircraft\_model

**Answer: select**

**f.flight\_id,**

**ac.model as aircraft\_model**

**From FLIGHTS f**

**Join AIRCRAFTS ac**

**ON f.aircraft\_code=ac.aircraft\_code**

**Where model='%Boeing%' AND (status='Cancelled' OR status='Delayed')**

1. **Which airport(name) has most cancelled flights (arriving)?**

Expected Output : Airport\_name

**Answer: SELECT**

**a.airport\_name**

**FROM FLIGHTS f**

**JOIN AIRPORTS a**

**ON f.arrival\_airport = a.airport\_code**

**WHERE f.Status = 'Cancelled'**

**GROUP BY a.airport\_name**

**ORDER BY 1  DESC**

**LIMIT 1**

1. ***Identify flight ids which are using “Airbus aircrafts”***

*Expected Output : Flight\_id,aircraft\_model*

**Answer: SELECT**

**f.flight\_id,**

**a.model**

**FROM**

**Flights f**

**JOIN**

**AIRCRAFTS a ON f.aircraft\_code = a.aircraft\_code**

**WHERE**

**a.model LIKE '%Airbus%'**

1. ***Identify date-wise last flight id flying from every airport?***

*Expected Output: Flight\_id,flight\_number,schedule\_departure,departure\_airport*

**Answer: WITH RankedFlights AS (**

**SELECT**

**flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**departure\_airport,**

**ROW\_NUMBER() OVER (**

**PARTITION BY departure\_airport, DATE(scheduled\_departure)**

**ORDER BY scheduled\_departure DESC**

**) AS rn**

**FROM**

**FLIGHTS**

**)**

**SELECT**

**flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**departure\_airport**

**FROM**

**RankedFlights**

**WHERE**

**rn = 1;**

1. ***Identify list of customers who will get the refund due to cancellation of the flights and how much amount they will get?***

*Expected Output : Passenger\_name,total\_refund.*

**Answer: select**

**passenger\_name,**

**sum(b.total\_amount) as total\_refund**

**From BOOKINGS b**

**Join TICKETS t**

**ON b.book\_ref=t.book\_ref**

**Join BOARDING\_PASSES bp**

**ON bp.ticket\_no=t.ticket\_no**

**JOIN FLIGHTS f**

**ON f.flight\_id=bp.flight\_id**

**Where status='Cancelled'**

**group by passenger\_name**

1. ***Identify date wise first cancelled flight id flying for every airport?***

*Expected Output : Flight\_id,flight\_number,schedule\_departure,departure\_airport*

**Answer: WITH CanceledFlights AS (**

**SELECT**

**flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**departure\_airport,**

**ROW\_NUMBER() OVER (**

**PARTITION BY departure\_airport, DATE(scheduled\_departure)**

**ORDER BY scheduled\_departure ASC**

**) AS rn**

**FROM**

**FLIGHTS**

**WHERE**

**Status = 'Cancelled'**

**)**

**SELECT**

**flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**departure\_airport**

**FROM**

**CanceledFlights**

**WHERE**

**rn = 1;**

1. ***Identify list of Airbus flight ids which got cancelled.***

*Expected Output : Flight\_id*

**Answer: SELECT**

**f.flight\_id**

**FROM FLIGHTS f**

**JOIN AIRCRAFTS a**

**ON f.aircraft\_code = a.aircraft\_code**

**WHERE a.model = '%Airbus%' AND f.Status = 'Cancelled'**

1. ***Identify list of flight ids having highest range.***

*Expected Output : Flight\_no, range*

**Answer: SELECT**

**flight\_id,**

**flight\_no,**

**ac.range**

**FROM**

**Flights f**

**JOIN AIRCRAFTS ac**

**ON f.aircraft\_code=ac.aircraft\_code**

**ORDER BY**

**range DESC**