**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](•%09https:/www.skillovilla.com/playground/sql?exerciseId=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-mm-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**

**t.ticket\_no, b.boarding\_no, b.seat\_no, t.passenger\_id, t.passenger\_name**

**FROM TICKETS t**

**JOIN BOARDING\_PASSES b**

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

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

**Answer: SELECT seat\_no,**

**COUNT(\*) as seat\_count**

**FROM BOARDING\_PASSES**

**GROUP BY 1**

**ORDER BY 2 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 monthly\_totals AS (**

**SELECT to\_char(b.book\_date, 'Mon-yy') AS month\_name,t.passenger\_id,**

**t.passenger\_name,SUM(b.total\_amount) AS total\_amount,**

**ROW\_NUMBER() OVER (PARTITION BY to\_char(b.book\_date, 'Mon-yy') ORDER BY SUM(b.total\_amount) DESC) AS rn**

**FROM BOOKINGS b**

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

**GROUP BY 1,2,3**

**)**

**SELECT**

**month\_name,passenger\_id,passenger\_name,total\_amount**

**FROM monthly\_totals**

**WHERE rn = 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 monthly\_totals AS (**

**SELECT to\_char(b.book\_date, 'Mon-yy') AS month\_name,t.passenger\_id,**

**t.passenger\_name,SUM(b.total\_amount) AS total\_amount,**

**ROW\_NUMBER() OVER (PARTITION BY to\_char(b.book\_date, 'Mon-yy') ORDER BY SUM(b.total\_amount) asc) AS rn**

**FROM BOOKINGS b**

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

**GROUP BY 1,2,3**

**)**

**SELECT**

**month\_name,passenger\_id,passenger\_name,total\_amount**

**FROM monthly\_totals**

**WHERE rn = 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: SELECT**

**t.passenger\_id,**

**t.passenger\_name,**

**tf.ticket\_no AS ticket\_number,**

**COUNT(tf.flight\_id) AS flight\_count**

**FROM TICKET\_FLIGHTS tf**

**JOIN TICKETS t ON tf.ticket\_no = t.ticket\_no**

**JOIN FLIGHTS f ON tf.flight\_id = f.flight\_id**

**GROUP BY t.passenger\_id, t.passenger\_name, tf.ticket\_no**

**HAVING COUNT(tf.flight\_id) > 1**

**ORDER BY flight\_count ASC**

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

Expected Output: just one number is required.

**Answer: SELECT COUNT(\*) AS tickets\_without\_boarding\_passes**

**FROM TICKETS t**

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

**WHERE bp.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)) / 60 AS Duration\_minutes**

**FROM FLIGHTS**

**ORDER BY 5 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,**

**CASE WHEN EXTRACT(HOUR FROM scheduled\_departure) >= 6 AND EXTRACT(HOUR FROM scheduled\_departure) < 11 THEN 'Morning'**

**ELSE 'Not Morning'**

**END 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 EarlyMorningFlights AS (**

**SELECT flight\_id,flight\_no,scheduled\_departure,scheduled\_arrival,departure\_airport,**

**ROW\_NUMBER() OVER(PARTITION BY departure\_airport ORDER BY scheduled\_departure) AS row\_num**

**FROM FLIGHTS**

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

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

**)**

**SELECT**

**flight\_id,flight\_no,scheduled\_departure,scheduled\_arrival,departure\_airport,**

**'Morning' AS timings**

**FROM EarlyMorningFlights**

**WHERE row\_num = 1**

**ORDER BY scheduled\_departure**

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

Expected Output: Airport\_code.

**Answer: SELECT**

**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 aircraft\_code,fare\_conditions,**

**count (seat\_no) as seat\_count**

**FROM SEATS**

**GROUP BY 1,2**

**ORDER BY 1,2**

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

Expected Output : Count of aircraft codes

**Answer:** **SELECT**

**COUNT (distinct aircraft\_code) as Count\_of\_aircraft\_codes**

**FROM Seats**

**WHERE fare\_conditions = 'Business'**

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

Expected Output : Airport\_name

**Answer: SELECT a.airport\_name**

**FROM flights f**

**JOIN airports a ON f.departure\_airport = a.airport\_code**

**GROUP BY a.airport\_name**

**ORDER BY COUNT(f.flight\_id) DESC**

**LIMIT 1**

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

Expected Output : Airport\_name

**Answer: SELECT a.airport\_name**

**FROM flights f**

**JOIN airports a ON f.departure\_airport = a.airport\_code**

**GROUP BY a.airport\_name**

**ORDER BY COUNT(f.flight\_id) ASC**

**LIMIT 1**

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, a.aircraft\_code, a.range**

**FROM FLIGHTS f**

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

**WHERE a.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'**

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 Flight\_count**

**FROM FLIGHTS**

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

**GROUP BY 1**

**ORDER BY 2 DESC**

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, a.aircraft\_code, a.range, f.departure\_airport**

**FROM FLIGHTS f**

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

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

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, a.model**

**FROM FLIGHTS f**

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

**WHERE a.model LIKE '%Airbus%' AND f.status in ('Cancelled', '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, a.model**

**FROM FLIGHTS f**

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

**WHERE a.model like '%Boeing%' AND f.status in ('Cancelled', 'Delayed')**

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

Expected Output : Airport\_name

**Answer: SELECT**

**a.airport\_name, count (\*) as cancelled\_flights\_count**

**FROM FLIGHTS f**

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

**WHERE f.status = 'Cancelled'**

**GROUP BY a.airport\_name**

**ORDER BY 2 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 LastFlights AS (**

**SELECT**

**flight\_id, flight\_no, scheduled\_departure, departure\_airport,**

**ROW\_NUMBER() OVER (PARTITION BY departure\_airport ORDER BY scheduled\_departure DESC) AS rn**

**FROM FLIGHTS**

**)**

**SELECT**

**flight\_id, flight\_no, scheduled\_departure, departure\_airport**

**FROM LastFlights**

**WHERE rn = 1**

**ORDER BY scheduled\_departure DESC**

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**

**t.passenger\_name,**

**SUM(b.total\_amount) AS total\_refund**

**FROM FLIGHTS f**

**JOIN TICKET\_FLIGHTS tf ON f.flight\_id = tf.flight\_id**

**JOIN TICKETS t ON tf.ticket\_no = t.ticket\_no**

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

**WHERE f.status = 'Cancelled'**

**GROUP BY t.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 First\_Cancelled\_Flights AS (**

**SELECT flight\_id,flight\_no,scheduled\_departure,departure\_airport,**

**ROW\_NUMBER() OVER (PARTITION BY departure\_airport ORDER BY scheduled\_departure) AS rn**

**FROM flights**

**WHERE status = 'Cancelled'**

**)**

**SELECT**

**flight\_id,flight\_no,scheduled\_departure,departure\_airport**

**FROM First\_Cancelled\_Flights**

**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 like '%Airbus%' and f.status = 'Cancelled'**

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

*Expected Output : Flight\_no, range*

**Answer: WITH Highest\_Range\_Flights AS (**

**SELECT f.flight\_no,a.range,**

**ROW\_NUMBER() OVER (ORDER BY a.range DESC) AS rn**

**FROM FLIGHTS f**

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

**)**

**SELECT**

**flight\_no,range**

**FROM Highest\_Range\_Flights**

**WHERE rn = 1**