**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 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 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 cte AS (SELECT TO\_CHAR(book\_date, 'MM-YY') AS month, t.passenger\_id, t.passenger\_name, SUM(b.total\_amount) AS total\_amount, RANK() OVER (PARTITION BY TO\_CHAR(book\_date, 'MM-YY') ORDER BY SUM(b.total\_amount) DESC) AS rnk FROM***

***BOOKINGS b JOIN TICKETS t ON b.book\_ref = t.book\_ref GROUP BY 1,2,3)***

***SELECT month, passenger\_id, passenger\_name, total\_amount FROM cte WHERE rnk = 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 cte AS (SELECT TO\_CHAR(book\_date, 'MM-YY') AS month, t.passenger\_id, t.passenger\_name, SUM(b.total\_amount) AS total\_amount, RANK() OVER (PARTITION BY TO\_CHAR(book\_date, 'MM-YY') ORDER BY SUM(b.total\_amount) ASC) AS rnk FROM***

***BOOKINGS b JOIN TICKETS t ON b.book\_ref = t.book\_ref GROUP BY 1,2,3)***

***SELECT month, passenger\_id, passenger\_name, total\_amount FROM cte WHERE rnk = 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, t.ticket\_no, COUNT(tf.flight\_id) FROM***

***TICKET\_FLIGHTS tf JOIN TICKETS t ON tf.ticket\_no = t.ticket\_no GROUP BY 1,2,3 HAVING COUNT(tf.flight\_id) > 1***

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

Expected Output: just one number is required.

**Answer:**

***SELECT COUNT(t.ticket\_no) AS ticket\_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, (scheduled\_arrival - scheduled\_departure) AS duration 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, 'Morning\_flights' AS timings FROM FLIGHTS WHERE EXTRACT(HOUR FROM scheduled\_departure) >= 6 AND EXTRACT(HOUR FROM scheduled\_departure) < 12***

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 cte AS (SELECT flight\_id, flight\_no, scheduled\_departure, scheduled\_arrival, departure\_airport, 'Morning\_flights' AS timings, RANK() OVER (PARTITION BY departure\_airport ORDER BY scheduled\_departure ASC) AS rnk FROM FLIGHTS WHERE EXTRACT(HOUR FROM scheduled\_departure) >= 6 AND EXTRACT(HOUR FROM scheduled\_departure) < 12)***

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

***Timings FROM cte WHERE rnk = 1***

1. **Questions:** **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)***

***FROM SEATS GROUP 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) 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 airport\_name, COUNT(\*) FROM AIRPORTS a JOIN FLIGHTS f ON a.airport\_code = f.departure\_airport GROUP BY 1 LIMIT 1***

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

Expected Output : Airport\_name

**Answer:**

***SELECT airport\_name, COUNT(\*) FROM AIRPORTS a JOIN FLIGHTS f ON a.airport\_code = f.departure\_airport GROUP BY 1 ORDER BY 2 ASC LIMIT 1***

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

Expected Output : Flight Count

**Answer:**

***SELECT COUNT(scheduled\_departure) 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 AS range FROM FLIGHTS f JOIN AIRCRAFTS a ON a.aircraft\_code = f.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\_no) 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\_no) FROM FLIGHTS WHERE departure\_airport = 'NOZ' OR departure\_airport = '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\_no) FROM FLIGHTS WHERE departure\_airport IN  ('KZN','DME','NBC','NJC','GDX','SGC','VKO','ROV') GROUP BY*  1**

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 AS range, f.departure\_airport FROM FLIGHTS f JOIN AIRCRAFTS a ON a.aircraft\_code = f.aircraft\_code WHERE (a.range BETWEEN 3000 AND 6000) AND f.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, a.model AS aircraft\_model FROM FLIGHTS f JOIN AIRCRAFTS a ON f.aircraft\_code = a.aircraft\_code WHERE a.model LIKE '%Airbus%' AND (f.status = 'Cancelled' OR f.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, a.model AS aircraft\_model FROM FLIGHTS f JOIN AIRCRAFTS a ON f.aircraft\_code = a.aircraft\_code WHERE a.model LIKE '%Boeing%' AND (f.status = 'Cancelled' OR f.status = 'Delayed')***

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

Expected Output : Airport\_name

**Answer: *SELECT a.airport\_name, COUNT(\*) FROM FLIGHTS f JOIN AIRPORTS a ON f.arrival\_airport = a.airport\_code WHERE f.status = 'Cancelled' GROUP BY 1 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 AS aircraft\_model FROM FLIGHTS f JOIN AIRCRAFTS a ON f.arrival\_airport = 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 cte AS (SELECT flight\_id, flight\_no, scheduled\_departure, departure\_airport, ROW\_NUMBER() OVER (PARTITION BY departure\_airport ORDER BY scheduled\_departure DESC) AS rnk FROM FLIGHTS) SELECT flight\_id, flight\_no, scheduled\_departure, departure\_airport FROM cte WHERE rnk = 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 t.passenger\_name, SUM(tf.amount) AS total\_refund FROM TICKETS t JOIN TICKET\_FLIGHTS tf ON t.ticket\_no = tf.ticket\_no JOIN FLIGHTS f ON f.flight\_id = tf.flight\_id WHERE f.status = 'Cancelled' GROUP BY 1***

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

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

**Answer:**

***WITH cte AS (SELECT flight\_id, flight\_no, scheduled\_departure, departure\_airport, ROW\_NUMBER() OVER (PARTITION BY departure\_airport ORDER BY scheduled\_departure)  AS rnk FROM FLIGHTS WHERE status = 'Cancelled') SELECT flight\_id, flight\_no, scheduled\_departure, departure\_airport FROM cte WHERE rnk = 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 f.status = 'Cancelled' AND a.model LIKE '%Airbus%'***

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

*Expected Output : Flight\_no, range*

**Answer: *SELECT f.flight\_no, MAX(a.range) AS range FROM FLIGHTS f JOIN AIRCRAFTS a ON f.aircraft\_code = a.aircraft\_code GROUP BY 1***