**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\pkumari94\Downloads\•%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-mmm-dd') AS booked\_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 s.seat\_no, COUNT(bp.seat\_no) AS seat\_count

FROM seats s

LEFT JOIN boarding\_passes bp ON s.seat\_no = bp.seat\_no

GROUP BY s.seat\_no

ORDER BY seat\_count

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(b.book\_date,'mmm-yy') AS Month\_name,

        t.passenger\_id,

        t.passenger\_name,

        b.total\_amount,

        RANK() OVER (PARTITION BY EXTRACT(MONTH FROM b.book\_date) ORDER BY b.total\_amount DESC) AS rnk

    FROM

        tickets t

    JOIN

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

)

SELECT

    Month\_name,

    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(b.book\_date, 'mmm-yy') AS Month\_name,

        t.passenger\_id,

        t.passenger\_name,

        b.total\_amount,

        RANK() OVER (PARTITION BY TO\_CHAR(b.book\_date, 'Mon-YY') ORDER BY b.total\_amount) AS rnk

    FROM

        tickets t

    JOIN

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

)

SELECT

    Month\_name,

    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) AS flight\_count

FROM

    tickets t

JOIN

    ticket\_flights tf ON t.ticket\_no = tf.ticket\_no

GROUP BY

    t.passenger\_id,

    t.passenger\_name,

    t.ticket\_no

HAVING

    COUNT(tf.flight\_id) = 1 OR COUNT(tf.flight\_id) > 1

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

Expected Output: just one number is required.

**Answer:** SELECT COUNT(\*) AS tckt\_without\_boarding\_pass

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:** WITH flight\_durations AS (

    SELECT

        flight\_no,

        departure\_airport,

        arrival\_airport,

        aircraft\_code,

        (scheduled\_arrival - scheduled\_departure) AS duration\_interval

    FROM

        flights

)

SELECT

    flight\_no,

    departure\_airport,

    arrival\_airport,

    aircraft\_code,

    CONCAT(

        EXTRACT(HOUR FROM duration\_interval), ' hours ',

        EXTRACT(MINUTE FROM duration\_interval), ' minutes ',

        EXTRACT(SECOND FROM duration\_interval), ' seconds'

    ) AS durations

FROM

    flight\_durations

ORDER BY

    duration\_interval 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 Flight'

        ELSE 'Not Morning Flight'

    END AS timings

FROM flights

WHERE EXTRACT(HOUR FROM scheduled\_departure) >= 6 AND EXTRACT(HOUR FROM scheduled\_departure) <= 11

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

    CASE

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

        ELSE 'Not Morning Flight'

    END AS timings

FROM flights

WHERE (departure\_airport, scheduled\_departure) IN (

    SELECT departure\_airport, MIN(scheduled\_departure)

    FROM flights

    WHERE EXTRACT(HOUR FROM scheduled\_departure) BETWEEN 6 AND 11

    GROUP BY departure\_airport

) order by scheduled\_departure

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

Expected Output: Airport\_code.

**Answer:** SELECT

airport\_code as airport\_codes

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(distinct seat\_no) as seat\_count

FROM seats

GROUP BY aircraft\_code, fare\_conditions

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 AS Airport\_name, COUNT(\*) AS Departure\_flights\_count

FROM airports a

JOIN flights f ON a.airport\_code = f.departure\_airport

GROUP BY a.airport\_name

ORDER BY Departure\_flights\_count 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 AS Airport\_name, COUNT(\*) AS Departure\_flights\_count

FROM airports a

JOIN flights f ON a.airport\_code = f.departure\_airport

GROUP BY a.airport\_name

ORDER BY Departure\_flights\_count 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,

 f.aircraft\_code,

 a.range as ranges

 FROM flights f

 JOIN aircrafts a

 on f.aircraft\_code=a.aircraft\_code

 where a.range between 3000 AND 6000

 GROUP BY 1,2,3

 ORDER BY 3

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

Expected Output : Flight\_count

**Answer:** SELECT COUNT(\*) 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(\*) AS Flight\_count

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(\*) as flight\_count

 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,

 f.aircraft\_code,

 a.range as ranges

 FROM flights f

 join aircrafts a

 on f.aircraft\_code=a.aircraft\_code

 where a.range between 3000 AND 6000

 AND f.departure\_airport='DME'

 GROUP BY 1,2,3

 ORDER BY 3

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 = '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

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 airport\_name

FROM (

    SELECT airport\_name,

    DENSE\_RANK() OVER (ORDER BY COUNT(\*) DESC) AS rnk

    FROM flights f

    JOIN airports a ON f.arrival\_airport = a.airport\_code

    WHERE f.status = 'Cancelled'

    GROUP BY airport\_name

) AS ranked\_airports

WHERE rnk = 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.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:** SELECT Flight\_id, flight\_nO, scheduled\_departure, departure\_airport

FROM (

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

           DENSE\_RANK() OVER (PARTITION BY departure\_airport, DATE(scheduled\_departure) ORDER BY scheduled\_departure DESC) AS rn

    FROM flights

) AS ranked\_flights

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 t.passenger\_name,

SUM(f.amount) as total\_refund

FROM tickets t

JOIN (SELECT ticket\_no,flight\_id,amount

FROM ticket\_flights where flight\_id IN (

    SELECT flight\_id from flights where status='Cancelled'))

f on t.ticket\_no=f.ticket\_no

group by 1

order 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:** SELECT Flight\_id, flight\_no, scheduled\_departure, departure\_airport

FROM (

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

           DENSE\_RANK() OVER (PARTITION BY departure\_airport, DATE(scheduled\_departure) ORDER BY scheduled\_departure) AS rn

    FROM flights

    WHERE status = 'Cancelled'

) AS ranked\_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 f.status = 'Cancelled' AND a.model LIKE '%Airbus%'

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

*Expected Output : Flight\_no, range*

**Answer:** WITH cte AS (

    SELECT f.Flight\_no, a.range,

           DENSE\_RANK() OVER (ORDER BY a.range DESC) AS rnk

    FROM flights f

    JOIN aircrafts a ON f.aircraft\_code = a.aircraft\_code

)

SELECT Flight\_no, range

FROM cte

WHERE rnk = 1