**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\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 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 as seat\_number,

    t.passenger\_id,

    t.passenger\_name

FROM TICKETS t INNER 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:**

WITH Table1 as(

SELECT

    seat\_no,

    COUNT(seat\_no) AS seat\_count

FROM seats

GROUP BY 1)

SELECT

    seat\_no

FROM Table1

ORDER BY seat\_count 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 Table1 as (

SELECT

    TO\_CHAR(b.book\_date,'mmm-yy') as Month\_name,

    t.passenger\_id,

    t.passenger\_name,

    b.total\_amount,

    DENSE\_RANK()OVER(partition by EXTRACT(MONTH FROM book\_date) ORDER BY total\_amount desc) as RNK

FROM BOOKINGS b INNER JOIN TICKETS t

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

)

SELECT

    Month\_name,

    passenger\_id,

    passenger\_name,

    total\_amount

FROM Table1

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 Table1 as (

SELECT

    TO\_CHAR(b.book\_date,'mmm-yy') as Month\_name,

    t.passenger\_id,

    t.passenger\_name,

    b.total\_amount,

    DENSE\_RANK()OVER(partition by EXTRACT(MONTH FROM book\_date) ORDER BY total\_amount asc) as RNK

FROM BOOKINGS b INNER JOIN TICKETS t

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

)

SELECT

    Month\_name,

    passenger\_id,

    passenger\_name,

    total\_amount

FROM Table1

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(b.flight\_id) as Flight\_count

FROM TICKETS t INNER JOIN BOARDING\_PASSES b

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

GROUP BY 1,2,3

HAVING COUNT(b.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 count\_of\_tickets

FROM TICKETS T LEFT JOIN  BOARDING\_PASSES bp

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

WHERE bp.boarding\_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 TABLE1 as (

SELECT

    flight\_no,

    departure\_airport,

    arrival\_airport,

    aircraft\_code,

    (scheduled\_arrival-scheduled\_departure) AS durations

FROM flights

ORDER BY durations DESC),

TABLE2 as (

    SELECT \*,

    DENSE\_RANK()OVER(ORDER BY durations DESC) RNK

FROM TABLE1)

SELECT

    flight\_no as flight\_number,

    departure\_airport,

    arrival\_airport,

    aircraft\_code,

    durations

FROM TABLE2

where RNK=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 as flight\_number,

    scheduled\_departure,

    scheduled\_arrival,

    TO\_CHAR(scheduled\_departure, 'HH24:MI:SS') AS timings

FROM flights

WHERE TO\_CHAR(scheduled\_departure, 'HH24:MI:SS') between '06:00:00' and '11:00:00'

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 as flight\_number,

    scheduled\_departure,

    scheduled\_arrival,

    departure\_airport,

    TO\_CHAR(scheduled\_departure, 'HH24:MI:SS') AS timings

FROM flights

WHERE TO\_CHAR(scheduled\_departure, 'HH24:MI:SS') between '02:00:00' and '06:00:00'

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) as seat\_count

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 ) 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:**

WITH Table1 as (SELECT

    a.airport\_name,

    COUNT(f.flight\_no) count\_of\_flights,

    RANK()OVER (ORDER BY COUNT(f.flight\_no) desc) as count\_rank

FROM AIRPORTS a INNER JOIN FLIGHTS f

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

GROUP BY 1)

SELECT

    airport\_name

FROM Table1

WHERE count\_rank=1

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

Expected Output : Airport\_name

**Answer:**

WITH Table1 as (SELECT

    a.airport\_name,

    COUNT(f.flight\_no) count\_of\_flights,

    RANK()OVER (ORDER BY COUNT(f.flight\_no) asc) as count\_rank

FROM AIRPORTS a INNER JOIN FLIGHTS f

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

GROUP BY 1)

SELECT

    airport\_name

FROM Table1

WHERE count\_rank=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

    distinct f.flight\_no as flight\_number,

    f.aircraft\_code,

    a.range

FROM FLIGHTS f INNER 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

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

    DISTINCT (f.flight\_no),

    f.aircraft\_code,

    a.range,

    f.departure\_airport

FROM FLIGHTS f INNER JOIN AIRCRAFTS a

ON f.aircraft\_code=a.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 INNER 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 as aircraft\_model

FROM FLIGHTS f INNER 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:**

with table1 as(

SELECT

    a.airport\_name,

    COUNT(f.flight\_no) as Count\_flights

FROM AIRPORTS a INNER JOIN FLIGHTS f

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

WHERE f.status='Cancelled'

GROUP BY 1

order by Count\_flights desc)

SELECT airport\_name

FROM table1

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 INNER 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 TABLE1 AS (SELECT

    flight\_id,

    flight\_no,

    scheduled\_departure,

    departure\_airport,

    DENSE\_RANK()OVER(PARTITION BY departure\_airport ORDER BY  scheduled\_departure DESC) as RNK

FROM FLIGHTS)

SELECT

    flight\_id,

    flight\_no as flight\_number,

    scheduled\_departure,

    departure\_airport

FROM TABLE1

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:**

WITH Table1 as(

SELECT

    t.passenger\_name,

    f.status,

    SUM(tf.amount) AS total\_refund

FROM TICKETS t INNER JOIN TICKET\_FLIGHTS tf

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

INNER JOIN FLIGHTS f

ON f.flight\_id=tf.flight\_id

GROUP BY 1,2)

SELECT

    passenger\_name,

    total\_refund

FROM Table1

WHERE status = 'Cancelled'

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

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

**Answer:**

WITH TABLE1 AS (

SELECT

    flight\_id,

    flight\_no,

    scheduled\_departure,

    departure\_airport,

DENSE\_RANK()OVER(PARTITION BY departure\_airport ORDER BY  scheduled\_departure ASC) as RNK

FROM FLIGHTS

WHERE status='Cancelled')

SELECT

    flight\_id,

    flight\_no as flight\_number,

    scheduled\_departure,

    departure\_airport

FROM TABLE1

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 INNER 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 TABLE1 AS(

SELECT

    DISTINCT f.flight\_no,

    a.range,

    DENSE\_RANK()OVER(ORDER BY a.range DESC) as RNK

FROM FLIGHTS f INNER JOIN AIRCRAFTS a

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

SELECT

    flight\_no,

    range

FROM TABLE1

WHERE RNK=1