**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

**Answer:** SELECT

    book\_ref,

  TO\_CHAR(book\_date, 'YYYY-MON-DD') as formatted\_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 as seat\_number,

 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

**Answer:** SELECT

    seat\_no

          FROM (

      SELECT

      seat\_no,

      COUNT(\*) as seat\_count

      FROM boarding\_passes

      GROUP BY seat\_no

      ORDER BY seat\_count

      LIMIT 1) as seat\_no

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 highest\_paying as (

    SELECT

    TO\_CHAR (b. book\_date, 'Mon-YY') as Month\_Name,

    1.passenger\_id,

    1.passenger\_name,

    b. total\_amount,

  ROW\_NUMBER () OVER (PARTITION BY TO\_CHAR (b. book\_date, 'Mon-YY')

    ORDER BY b. total\_amount DESC) as Row\_Num

    FROM bookings b

    JOIN tickets t

    ON b.book\_ref=t.book\_ref)

    SELECT

    Month\_Name,

  Passenger\_id,

    Passenger\_name,

    Total\_amount

    FROM highest\_paying

    WHERE Row\_Num=1

    ORDER BY 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 Least\_paying as (

    SELECT

    TO\_CHAR (b. book\_date, 'Mon-YY') as Month\_Name,

    1.passenger\_id,

    1.passenger\_name,

    b. total\_amount,

ROW\_NUMBER () OVER (PARTITION BY TO\_CHAR (b. book\_date, 'Mon-YY')

    ORDER BY b. total\_amount ASC) as Row\_Num

    FROM bookings b

    JOIN tickets t

    ON b.book\_ref=t.book\_ref)

    SELECT

    Month\_Name,

    Passenger\_id,

    Passenger\_name,

    Total\_amount

    FROM Least\_paying

    WHERE Row\_Num=1

    ORDER BY 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(f.flight\_id) AS flight\_count

FROM tickets t

JOIN ticket\_flights f

ON t.ticket\_no=f.ticket\_no

GROUP BY 1,2,3

HAVING COUNT(f.flight\_id) = 1 OR COUNT(f.flight\_id) > 2

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

Expected Output: just one number is required.

**Answer:** SELECT

COUNT(\*) AS ticket\_count\_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:** SELECT

flight\_no,

departure\_airport,

arrival\_airport,

aircraft\_code,

(scheduled\_arrival-scheduled\_departure)/60.0 as duration

FROM flights

ORDER BY duration 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,

CAST(scheduled\_departure AS time) as timing

FROM flights

WHERE CAST(scheduled\_departure AS time) 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:**  With earlyflights as (SELECT

flight\_id,

flight\_no,

scheduled\_departure,

scheduled\_arrival,

departure\_airport,

CAST(scheduled\_departure AS time) as timings,

ROW\_NUMBER() OVER(PARTITION BY departure\_airport ORDER BY

scheduled\_departure) AS row\_num

FROM flights

WHERE CAST(scheduled\_departure AS time) BETWEEN '06:00:00' AND  '11:00:00')

SELECT

flight\_id,

flight\_no,

scheduled\_departure,

scheduled\_arrival,

departure\_airport,

timings

FROM Earlyflights

WHERE row\_num = 1

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

aircraft\_code,

fare\_conditions,

COUNT(\*) AS seat\_count

FROM seats

GROUP BY 1, 2

ORDER BY 1,2

Expected Output : Count of aircraft codes

Answer: SELECT

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\_aircrafts

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

FROM airports

WHERE airport\_code= (

SELECT

departure\_airport

FROM flights

GROUP BY departure\_airport

ORDER BY 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

airport\_name

FROM airports

WHERE airport\_code = (

SELECT

departure\_airport

FROM flights

GROUP BY departure\_airport

ORDER BY COUNT (\*) ASC

LIMIT 1)

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

Expected Output : Flight Count

**Answer:** SELECT

COUNT(\*) 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

FROM flights as f

JOIN aircrafts AS a

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

WHERE a.range BETWEEN 3000 AND 6000

GROUP BY f.flight\_no, f.aircraft\_code, a.range

ORDER BY a.range

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 AS departure\_airport,

COUNT(\*) AS Flight\_count

FROM flights

WHERE departure\_airport IN

('KZN','DME','NBC','NJC','GDX','SGC','VKO','ROV')

GROUP BY 1

ORDER BY 2

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,

f.departure\_airport

FROM flights AS f

JOIN aircrafts AS a

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

WHERE a.range BETWEEN 3000 AND 6000 AND departure\_airport = 'DME'

GROUP BY f.flight\_no, f.aircraft\_code, a.range,

f.departure\_airport

ORDER BY a.range

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 AS f

JOIN aircrafts AS 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

FROM airports AS a

JOIN flights AS f

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

WHERE f.status='Cancelled'

GROUP BY a.airport\_name

ORDER BY COUNT(\*) 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 AS f

JOIN aircrafts AS 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 lastflight as (SELECT

f.flight\_id,

f.flight\_no,

f.scheduled\_departure,

f.departure\_airport,

MAX(scheduled\_departure) OVER(PARTITION BY departure\_airport,

DATE(scheduled\_departure)) AS max\_scheduled\_departure

FROM flights AS f)

SELECT

flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport

FROM LastFlight

WHERE scheduled\_departure=max\_scheduled\_departure

ORDER BY 2

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,

b.total\_amount as total\_refund

from bookings b

join tickets t

on b.book\_ref=t.book\_ref

join ticket\_flights tf

on t.ticket\_no=tf.ticket\_no

join flights f

on tf.flight\_id=f.flight\_id

where f.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:** SELECT

flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport

FROM

(

SELECT

flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport,

ROW\_NUMBER() OVER(PARTITION BY departure\_airport ORDER BY

scheduled\_departure ASC) AS m

FROM flights

WHERE status='Cancelled'

) AS O

WHERE m = 1

ORDER BY departure\_airport,

scheduled\_departure

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:** SELECT

f.flight\_no,

max(a.range) as range

FROM flights f

JOIN aircrafts a

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

GROUP BY flight\_no