**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\Somesh\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\_newformat,

 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 Boarding\_passes b

INNER 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:** with table1 as (SELECT

seat\_no,

COUNT(seat\_no) as number\_of\_times\_allocated\_in\_boarding\_pass

FROM Boarding\_passes

GROUP BY 1

ORDER BY 2 ASC

LIMIT  3)

SELECT

table1.seat\_no

FROM table1

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

SELECT

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

t.passenger\_id,

t.passenger\_name,

MAX(b.total\_amount) as highest\_amount

FROM bookings b

INNER JOIN tickets t

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

GROUP BY 1,2,3

ORDER BY 4 ASC

**Answer:**

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:** SELECT

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

t.passenger\_id,

t.passenger\_name,

MIN(b.total\_amount) as highest\_amount

FROM bookings b

INNER JOIN tickets t

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

GROUP BY 1,2,3

ORDER BY 4 ASC

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:**

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

Expected Output: just one number is required.

**Answer:** with t1 as

(SELECT

t.ticket\_no,

b.boarding\_no

FROM tickets t

LEFT JOIN boarding\_passes b

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

WHERE boarding\_no is NULL )

SELECT

count(\*) as number\_of\_tickets\_without\_boarding\_pass

From t1

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

GROUP BY  1,2,3,4,5

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:** with t1 as

(SELECT

flight\_id,

flight\_no,

scheduled\_departure,

scheduled\_arrival,

TO\_CHAR(scheduled\_departure,'HH24:MI:SS')  as time,

CASE

WHEN TO\_CHAR(scheduled\_departure,'HH24:MI:SS')  >='6:00:00' THEN 'Morning'

WHEN TO\_CHAR(scheduled\_departure,'HH24:MI:SS') <= '11:00:00' THEN 'Morning'

ELSE 'Not Morning'

END as timings

FROM Flights

GROUP BY 1)

SELECT

\*

FROM t1

Where timings = 'Morning'

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 t1 as

(SELECT

flight\_id,

flight\_no,

scheduled\_departure,

scheduled\_arrival,

departure\_airport,

TO\_CHAR(scheduled\_departure,'HH24:MI:SS')  as time,

CASE

WHEN TO\_CHAR(scheduled\_departure,'HH24:MI:SS')  >='2:00:00' THEN 'Morning'

WHEN TO\_CHAR(scheduled\_departure,'HH24:MI:SS') <= '6:00:00' THEN 'Morning'

ELSE 'Not Morning'

END as timings

FROM Flights

GROUP BY 1),

t2 as (SELECT

\*,

ROW\_NUMBER()OVER(partition by departure\_airport order by timings) as rank

FROM t1

where timings = 'Morning'),

t3 as (SELECT \*

FROM t2

WHERE rank =1)

SELECT

t3.flight\_id,

t3.flight\_no,

t3.scheduled\_departure,

t3.scheduled\_arrival,

t3.departure\_airport,

t3.timings

FROM t3

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

a.Aircraft\_code,

s.fare\_conditions,

COUNT(s.seat\_no) AS count\_of\_seats

From aircrafts a

left join seats s

on a.aircraft\_code = s.aircraft\_code

GROUP BY 1,2

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

Expected Output : Count of aircraft codes

with cte as (SELECT

aircraft\_code,

COUNT(fare\_conditions) number\_of\_business\_class\_seats

FROM Seats

where fare\_conditions = 'Business'

GROUP BY 1)

Select

COUNT (\*)

From cte

**Answer:**

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

Expected Output : Airport\_name

**Answer:** with t1 as (SELECT

departure\_airport,

COUNT(flight\_id )AS Nnumber\_of\_departure\_flights

FROM flights

GROUP BY 1

ORDER BY 2 DESC

LIMIT 1

)

SELECT

departure\_airport

FROM t1

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

Expected Output : Airport\_name

**Answer:** with t1 as (SELECT

departure\_airport,

COUNT(flight\_id )AS Nnumber\_of\_departure\_flights

FROM flights

GROUP BY 1

ORDER BY 2 ASC

LIMIT 1)

SELECT

departure\_airport

FROM t1

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

Expected Output : Flight Count

**Answer:**  SELECT

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 f

INNER JOIN Aircrafts a

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

WHERE 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** with t1 as (SELECT

 (flight\_id)

 FROM flights

 WHERE departure\_airport = 'KUF'

 AND arrival\_airport = 'URS'),

 t2 as (Select

 (flight\_id)

 FROM flights

 WHERE departure\_airport = 'URS'

 AND arrival\_airport = 'KUF'),

 Union\_data as (

     Select \* FROM t1

     UNION

     Select \* FROM t2

 )

 Select COUNT (\*) as count\_of\_flight\_id

 FROM Union\_data

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)

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\_id)

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,

f.departure\_airport

FROM flights f

INNER JOIN aircrafts a

on f.aircraft\_code = a.aircraft\_code

WHERE 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

a.aircraft\_code

FROM Aircrafts a

LEFT join flights f

ON a.aircraft\_code = f.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

a.aircraft\_code

FROM Aircrafts a

LEFT join flights f

ON a.aircraft\_code = f.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

with t1 as (SELECT

arrival\_airport,

COUNT(flight\_id) number\_of\_flights\_cancelled

from flights

WHERE actual\_arrival is NULL

GROUP BY 1

ORDER BY 2 DESC

LIMIT 1)

SELECT

t1.arrival\_airport

FROM t1

1. ***Identify flight ids which are using “Airbus aircrafts”***

*Expected Output : Flight\_id,aircraft\_model*

**Answer:**  SELECT

DISTINCT f.flight\_id,

a.model as model\_name

From flights f

JOIN aircrafts a

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

where a.model like '%Airbus%'

order by 1 asc

1. ***Identify date-wise last flight id flying from every airport?***

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

**Answer:**

    with t1 as(SELECT

    flight\_id,

    flight\_no,

    scheduled\_departure,

    TO\_CHAR(scheduled\_departure,'DD-MM-YYYY'),

    departure\_airport,

    ROW\_NUMBER()OVER (Partition by departure\_airport order by TO\_CHAR(scheduled\_departure,'DD-MM-YYYY') DESC) as rank

    FROM flights)

    Select

    flight\_id,

    flight\_no,

    scheduled\_departure,

    departure\_airport

    from t1

    where rank=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,

b.total\_amount as total\_refund

FROM Flights f

JOIN Boarding\_passes bp

ON f.flight\_id = bp.flight\_id

JOIN tickets t

on t.ticket\_no = bp.ticket\_no

JOIN bookings b

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

where f.actual\_departure is NULL

OR f.actual\_arrival is NULL

Order by 2 DESC

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

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

**Answer:** with t1 as(Select

flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport,

actual\_departure,

TO\_CHAR(scheduled\_departure,'DD-MM-YYYY') as dateofcancellation ,

ROW\_NUMBER()OVER (partition by departure\_airport order by TO\_CHAR(scheduled\_departure,'DD-MM-YYYY') ASC) rank

FROM flights

where actual\_departure is NULL )

Select

t1.flight\_id,

t1.flight\_no,

t1.scheduled\_departure,

t1.departure\_airport

from t1

where rank = 1

1. ***Identify list of Airbus flight ids which got cancelled.***

*Expected Output : Flight\_id*

**Answer:**  with cte as (SELECT

 f.flight\_id,

 a.model

 From flights f

 INNER JOIN aircrafts a

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

 WHERE a.model like '%Airbus%'

 AND f.actual\_departure is NULL)

 SELECT

 flight\_id

 from CTE

 ORDER BY 1 ASC

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

*Expected Output : Flight\_no, range*

**Answer:**  With t1 as (SELECT

 DISTINCT f.flight\_no,

 a.range,

 RANK()OVER (order by a.range desc) as rank

 FROM Aircrafts a

 INNER JOIN flights f

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

 GROUP BY 1,2 )

 SELECT

 t1.flight\_no,

 t1.range

 FROM t1

 WHERE rank=1