**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-Mon-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

bp.ticket\_no,

bp.boarding\_no,

bp.seat\_no AS seat\_number,

t.passenger\_id,

t.passenger\_name

FROM BOARDING\_PASSES bp

JOIN TICKETS t ON bp.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 allocation\_count

FROM BOARDING\_PASSES

GROUP BY seat\_no

ORDER BY allocation\_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:**SELECT

TO\_CHAR(book\_date, 'Mon-YY') AS month\_name,

t.passenger\_id,

t.passenger\_name,

SUM(tf.amount) AS total\_amount

FROM TICKETS t

JOIN TICKET\_FLIGHTS tf ON t.ticket\_no = tf.ticket\_no

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

GROUP BY month\_name, t.passenger\_id, t.passenger\_name

ORDER BY month\_name, total\_amount DESC

LIMIT 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:**SELECT

TO\_CHAR(book\_date, 'Mon-YY') AS month\_name,

t.passenger\_id,

t.passenger\_name,

SUM(tf.amount) AS total\_amount

FROM TICKETS t

JOIN TICKET\_FLIGHTS tf ON t.ticket\_no = tf.ticket\_no

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

GROUP BY month\_name, t.passenger\_id, t.passenger\_name

ORDER BY month\_name, total\_amount ASC

LIMIT 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;

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

Expected Output: just one number is required.

**Answer:**SELECT COUNT(\*)

FROM TICKETS t

LEFT JOIN BOARDING\_PASSES bp ON t.ticket\_no = bp.ticket\_no

WHERE bp.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

f.flight\_no,

f.departure\_airport,

f.arrival\_airport,

f.aircraft\_code,

(f.actual\_arrival - f.actual\_departure) AS duration

FROM FLIGHTS f

WHERE f.actual\_departure IS NOT NULL

AND f.actual\_arrival IS NOT NULL

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 AS flight\_number,

scheduled\_departure,

scheduled\_arrival,

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

FROM

FLIGHTS

WHERE

EXTRACT(HOUR FROM scheduled\_departure) >= 6

AND EXTRACT(HOUR FROM scheduled\_departure) < 11

ORDER BY

scheduled\_departure;

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 MorningFlights AS (

SELECT

flight\_id,

flight\_no AS flight\_number,

scheduled\_departure,

scheduled\_arrival,

departure\_airport,

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

ROW\_NUMBER() OVER (PARTITION BY departure\_airport ORDER BY scheduled\_departure ASC) AS rn

FROM

FLIGHTS

WHERE

EXTRACT(HOUR FROM scheduled\_departure) >= 6

AND EXTRACT(HOUR FROM scheduled\_departure) < 11

)

SELECT

flight\_id,

flight\_number,

scheduled\_departure,

scheduled\_arrival,

departure\_airport,

timings

FROM

MorningFlights

WHERE

rn = 1

ORDER BY

departure\_airport;

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(\*) 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)

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

FROM FLIGHTS f

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

GROUP BY a.airport\_name

ORDER BY COUNT(f.flight\_id) 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

FROM FLIGHTS f

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

GROUP BY a.airport\_name

ORDER BY COUNT(f.flight\_id) 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 f

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(\*) 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 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(\*) AS flight\_count

FROM FLIGHTS

WHERE departure\_airport IN ('KZN', 'DME', 'NBC', 'NJC', 'GDX', 'SGC', 'VKO', 'ROV')

GROUP BY departure\_airport;

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

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

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

WHERE (f.status = 'Cancelled' OR f.actual\_departure > f.scheduled\_departure)

AND a.model LIKE '%Airbus%';

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 (f.status = 'Cancelled' OR f.actual\_departure > f.scheduled\_departure)

AND a.model LIKE '%Boeing%';

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

Expected Output : Airport\_name

**Answer:**WITH CancelledFlights AS (

SELECT

a.airport\_name,

COUNT(f.flight\_id) AS cancel\_count

FROM FLIGHTS f

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

WHERE f.status = 'Cancelled'

GROUP BY a.airport\_name

)

SELECT

airport\_name

FROM (

SELECT

airport\_name,

row\_number() OVER (ORDER BY cancel\_count DESC) AS rank

FROM CancelledFlights

) AS ranked\_flights

WHERE rank = 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:**WITH RankedFlights AS (

SELECT

f.flight\_id,

f.flight\_no,

f.scheduled\_departure,

f.departure\_airport,

ROW\_NUMBER() OVER (

PARTITION BY f.departure\_airport,

DATE(f.scheduled\_departure)

ORDER BY f.scheduled\_departure DESC

) AS rn

FROM FLIGHTS f

)

SELECT

flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport

FROM RankedFlights

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(tf.amount) AS total\_refund

FROM

FLIGHTS f

JOIN

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

JOIN

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

JOIN

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

WHERE

f.status = 'Cancelled'

GROUP BY

t.passenger\_name;

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

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

**Answer:**WITH CanceledFlights AS (

SELECT

flight\_id,

flight\_no AS flight\_number,

scheduled\_departure,

departure\_airport,

ROW\_NUMBER() OVER (PARTITION BY departure\_airport, DATE(scheduled\_departure) ORDER BY scheduled\_departure) AS rn

FROM FLIGHTS

WHERE status = 'Cancelled'

)

SELECT

flight\_id,

flight\_number,

scheduled\_departure,

departure\_airport

FROM CanceledFlights

WHERE rn = 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

DISTINCT f.flight\_no,

a.range

FROM FLIGHTS f

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

ORDER BY a.range DESC

limit 10;