**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\U1163423\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-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**

t.ticket\_no,

bp.boarding\_no,

bp.seat\_no AS seat\_number,

t.passenger\_id,

t.passenger\_name

**FROM**

TICKETS t

**JOIN**

BOARDING\_PASSES bp ON t.ticket\_no = bp.ticket\_no;

1. **Write a query to find the seat number which is least allocated among all the seats?**

**Answer:** with least\_seat\_assighned as (select seat\_no, rank () over (order by count(seat\_no)asc)as least\_rank from boarding\_passes

group by seat\_no) select seat\_no from least\_seat\_assighned

where least\_rank =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 MonthlyPayments AS (

SELECT

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

t.passenger\_id,

t.passenger\_name,

SUM(b.total\_amount) AS total\_amount

FROM

TICKETS t

JOIN

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

GROUP BY

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

t.passenger\_id,

t.passenger\_name

),

RankedPayments AS (

SELECT

month\_name,

passenger\_id,

passenger\_name,

total\_amount,

RANK() OVER (PARTITION BY month\_name ORDER BY total\_amount DESC) AS rank

FROM

MonthlyPayments

)

SELECT

month\_name,

passenger\_id,

passenger\_name,

total\_amount

FROM

RankedPayments

WHERE

rank = 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 MonthlyPayments AS (

SELECT

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

t.passenger\_id,

t.passenger\_name,

SUM(b.total\_amount) AS total\_amount

FROM

TICKETS t

JOIN

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

GROUP BY

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

t.passenger\_id,

t.passenger\_name

),

RankedPayments AS (

SELECT

month\_name,

passenger\_id,

passenger\_name,

total\_amount,

RANK() OVER (PARTITION BY month\_name ORDER BY total\_amount asc) AS rank

FROM

MonthlyPayments

)

SELECT

month\_name,

passenger\_id,

passenger\_name,

total\_amount

FROM

RankedPayments

WHERE

rank = 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(bp.flight\_id) AS flight\_count

**FROM**

tickets t

**JOIN**

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

**GROUP BY**

t.passenger\_id, t.passenger\_name, t.ticket\_no

**HAVING**

COUNT(bp.flight\_id) > 1;

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

Expected Output: just one number is required.

**Answer:**

**SELECT** COUNT(\*)

**FROM** boarding\_passes

**WHERE** 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:** SELECT flight\_no, departure\_airport, arrival\_airport, aircraft\_code,duration from (SELECT flight\_no, departure\_airport, arrival\_airport, aircraft\_code,

actual\_departure::TIME AS actual\_departure\_time,

actual\_arrival::TIME AS actual\_arrival\_time,

actual\_arrival::TIME - actual\_departure::TIME AS duration

FROM flights

WHERE actual\_departure IS NOT NULL AND actual\_arrival IS NOT NULL) as t1

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,

scheduled\_departure::TIME AS departure\_time,

scheduled\_arrival::TIME AS arrival\_time

FROM flights

WHERE scheduled\_departure::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 RankedFlights AS (

SELECT

flight\_no AS flight\_id,

flight\_no AS flight\_number,

scheduled\_departure,

scheduled\_arrival,

departure\_airport,

actual\_departure::TIME AS actual\_departure\_time,

actual\_arrival::TIME AS actual\_arrival\_time,

RANK() OVER (PARTITION BY departure\_airport ORDER BY scheduled\_departure) AS rank

FROM

flights

WHERE

scheduled\_departure::time >= '06:00:00'

AND scheduled\_departure::time <= '11:00:00'

)

SELECT

flight\_id,

flight\_number,

scheduled\_departure,

scheduled\_arrival,

departure\_airport,

actual\_arrival\_time,actual\_departure\_time

FROM

RankedFlights

WHERE

rank = 1

ORDER BY

departure\_airport,

scheduled\_departure;

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**

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 aircraft\_count

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

airports a

JOIN

(SELECT

departure\_airport,

COUNT(\*) AS departure\_count

FROM

FLIGHTS

GROUP BY

departure\_airport

ORDER BY

departure\_count DESC

LIMIT 1) AS d

ON

a.airport\_code = d.departure\_airport;

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

airports a

JOIN

(SELECT

departure\_airport,

COUNT(\*) AS departure\_count

FROM

FLIGHTS

GROUP BY

departure\_airport

ORDER BY

departure\_count ASC

LIMIT 1) AS d

ON

a.airport\_code = d.departure\_airport;

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

Distinct f.flight\_no AS Flight\_Number,

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

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

f.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

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%'

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 AS aircraft\_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

arrival\_airport AS Airport\_name,

COUNT(status) AS Cancelled\_flights

FROM

FLIGHTS

WHERE

status = 'Cancelled'

GROUP BY

arrival\_airport

ORDER BY

Cancelled\_flights 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 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

flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport,

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

FROM

FLIGHTS

)

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,

b.total\_amount AS total\_refund

FROM

FLIGHTS f

JOIN

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

JOIN

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

JOIN

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

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:** WITH RankedFlights AS (

SELECT

flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport,

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

FROM flights

WHERE status = 'cancelled'

)

SELECT

flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport

FROM RankedFlights

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:** SELECT f.flight\_no, a.range

FROM flights f

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

WHERE a.range = (SELECT MAX(range) FROM aircrafts);