**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\HP\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,'yyy-mm-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 b.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:**  select seat\_no,

 count(\*) as allocations\_count

 from seats

 group by 1

 order by allocations\_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 topspenders as (select to\_char(b.book\_date,'MON-YY') as month\_name,

 t.passenger\_id,t.passenger\_name,b.total\_amount,

 rank() over(partition by to\_char(b.book\_date,'MON-YY') order by b.total\_amount desc) as spend\_rank

 from bookings b

 inner join tickets t

 on b.book\_ref=t.book\_ref)

 select month\_name,passenger\_id,passenger\_name,total\_amount

 from topspenders

 where spend\_rank=1

 order by 1 desc;

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 leastspenders as (select to\_char(b.book\_date,'MON-YY') as month\_name,

 t.passenger\_id,t.passenger\_name,b.total\_amount,

 rank() over(partition by to\_char(b.book\_date,'MON-YY') order by b.total\_amount asc) as spend\_rank

 from bookings b

 inner join tickets t

 on b.book\_ref=t.book\_ref)

 select month\_name,passenger\_id,passenger\_name,total\_amount

 from leastspenders

 where spend\_rank=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,tf.ticket\_no,count(tf.flight\_id) as flight\_count

from tickets t

inner join ticket\_flights tf

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

group by 1,2,3

having count(tf.flight\_id)>1

order by flight\_count desc;

**A**

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

Expected Output: just one number is required.

**Answer:** select count(t.ticket\_no)

from tickets t left join boarding\_passes b

on t.ticket\_no = b.ticket\_no

group by boarding\_no

having 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,

MAX(scheduled\_arrival - scheduled\_departure) AS duration

FROM

flights

GROUP BY flight\_no, departure\_airport, arrival\_airport, aircraft\_code

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,

CASE

WHEN TO\_CHAR(scheduled\_departure, 'HH24:MI:SS') BETWEEN '06:00:00' AND '11:00:00' THEN 'Morning Flight'

ELSE 'Other'

END 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,scheduled\_departure,scheduled\_arrival,departure\_airport,

CASE WHEN TO\_CHAR(scheduled\_departure, 'HH24:MI:SS') BETWEEN '06:00:00' AND '11:00:00' THEN 'Morning Flight'

ELSE 'Other'

END AS Timings

FROM (SELECT f.\*, RANK() OVER (PARTITION BY departure\_airport ORDER BY scheduled\_departure ASC) AS flight\_rank

FROM flights f  -- Replace 'flights' with your actual table name

WHERE

TO\_CHAR(scheduled\_departure, 'HH24:MI:SS') BETWEEN '06:00:00' AND '11:00:00') AS ranked\_flights

WHERE

flight\_rank = 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 aircraft\_code,fare\_conditions

ORDER 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(\*)

FROM (SELECT DISTINCT aircraft\_code

FROM seats

WHERE fare\_conditions = 'Business') AS business\_aircraft\_codes;

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

Expected Output : Airport\_name

**Answer:** SELECT a.airport\_name::json->>'en' AS airport\_name

FROM flights f

INNER JOIN airports a ON f.departure\_airport = a.airport\_code

GROUP BY a.airport\_name

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 a.airport\_name::json->>'en' AS airport\_name

FROM flights f

INNER JOIN airports a ON f.departure\_airport = a.airport\_code

GROUP BY a.airport\_name

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(DISTINCT flight\_no) AS flight\_count

FROM flights f

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, 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

ORDER BY 1;

1. **Write a query to get the count of flights flying between URS and KUF?**

Expected Output : Flight\_count

**Answer:** SELECT COUNT(DISTINCT flight\_no) AS flight\_count

FROM flights

WHERE (departure\_airport = 'URS' AND arrival\_airport = 'KUF')

OR (departure\_airport = 'KUF' AND arrival\_airport = 'URS');

1. **Write a query to get the count of flights flying from either from NOZ or KRR?**

Expected Output : Flight count

**Answer:** SELECT COUNT(DISTINCT flight\_no) 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

ORDER BY departure\_airport ASC;

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, a.aircraft\_code, a.range, f.departure\_airport

FROM flights f

INNER 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 flight\_id,model

FROM (SELECT flight\_id, model,status

FROM flights f

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

WHERE model::json->>'en' LIKE '%Airbus%'

AND status IN ('Cancelled', 'Delayed')) AS model;

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 flight\_id, model AS aircraft\_model

FROM (SELECT flight\_id, model, f.status

FROM flights f

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

WHERE model::json->>'en' LIKE '%Boeing%'

AND (f.status = 'Cancelled' OR f.status = 'Delayed')

ORDER BY model) AS model;

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

Expected Output : Airport\_name

WITH cancelled\_details AS

(SELECT a.airport\_name::json->>'en' AS airport\_name,

COUNT(\*) AS cancelled\_flights

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 cancelled\_details

WHERE cancelled\_flights = (SELECT MAX(cancelled\_flights) FROM cancelled\_details);

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::json->>'en' LIKE '%Airbus%';

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

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

**Answer:** SELECT flight\_id, flight\_no, scheduled\_departure, departure\_airport

FROM (SELECT \*,

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

FROM flights) AS ranked\_flights

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, max(tf.amount) AS total\_refund

FROM flights f

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

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

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:** SELECT flight\_id, flight\_no, scheduled\_departure, departure\_airport

FROM (SELECT \*,

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

FROM flights

WHERE status = 'Cancelled') AS ranked\_flights

WHERE rank = 1;

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

*Expected Output : Flight\_id*

**Answer:** SELECT flight\_id

FROM flights f

INNER JOIN aircrafts a

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

WHERE a.model::json->>'en' LIKE '%Airbus%'

AND f.status = 'Cancelled';

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

*Expected Output : Flight\_no, range*

**Answer:** WITH airline AS

(SELECT DISTINCT f.flight\_no, a.range AS base

FROM aircrafts a

INNER JOIN flights f ON a.aircraft\_code = f.aircraft\_code

ORDER BY a.range DESC)

SELECT flight\_no, base

FROM airline

WHERE base = (SELECT MAX(base) FROM airline);