**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 booking\_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

boarding\_passes.ticket\_no,

boarding\_no,

seat\_no,

passenger\_id,

passenger\_name

from boarding\_passes

join tickets on

boarding\_passes.ticket\_no = tickets.ticket\_no

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

**Answer**:select

seat\_no

from seats

group by seat\_no

order by 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 monthly\_totals AS (

SELECT

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

passenger\_id,

passenger\_name,

SUM(total\_amount) AS total\_amount

FROM Bookings b

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

GROUP BY TO\_CHAR(book\_date, 'Mon-yy'), passenger\_id, passenger\_name),

ranked\_totals AS (

SELECT

month\_name,

passenger\_id,

passenger\_name,

total\_amount,

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

FROM monthly\_totals

)

SELECT

month\_name,

passenger\_id,

passenger\_name,

total\_amount

FROM ranked\_totals

WHERE rnk = 1

ORDER BY month\_name ASC

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**:WITH monthly\_totals AS (

SELECT

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

passenger\_id,

passenger\_name,

SUM(total\_amount) AS total\_amount

FROM Bookings b

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

GROUP BY TO\_CHAR(book\_date, 'Mon-yy'), passenger\_id, passenger\_name),

ranked\_totals AS (

SELECT

month\_name,

passenger\_id,

passenger\_name,

total\_amount,

RANK() OVER (PARTITION BY month\_name ORDER BY total\_amount ASC) AS rnk

FROM monthly\_totals

)

SELECT

month\_name,

passenger\_id,

passenger\_name,

total\_amount

FROM ranked\_totals

WHERE rnk = 1

ORDER BY month\_name 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

passenger\_id,

passenger\_name,

t.ticket\_no,

count(flight\_id) as flight\_count

from tickets t

join ticket\_flights tf

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

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

having count(flight\_id) > 1;

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

Expected Output: just one number is required.

**Answer:**SELECT COUNT(\*) AS ticket\_without\_bp

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

flight\_no,

departure\_airport,

arrival\_airport,

aircraft\_code,

(actual\_arrival - actual\_departure) AS runtime\_durations

FROM flights

WHERE actual\_departure IS NOT NULL AND actual\_arrival IS NOT NULL

ORDER BY runtime\_durations DESC;

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, 'HH:MM') 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) 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

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(distinct aircraft\_code) as count\_aircraft\_codes

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 flights f ON a.airport\_code = f.departure\_airport

GROUP BY a.airport\_name

ORDER BY COUNT(f.flight\_no) 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 airports a

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

WHERE f.status = 'Scheduled'

GROUP BY a.airport\_name

ORDER BY COUNT(f.flight\_no) 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

flight\_id,

f.aircraft\_code,

af.range

FROM flights f

JOIN aircrafts af

ON f.aircraft\_code = af.aircraft\_code

WHERE af.range between 3000 and 6000

ORDER BY flight\_id ASC;

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')

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(\*) 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

flight\_no,

f.aircraft\_code,

af.range,

departure\_airport

FROM flights f

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

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

ORDER BY af.range ASC;

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 AS aircraft\_model

FROM flights f

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

WHERE model LIKE '%Airbus%' AND status IN ('Cancelled','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

flight\_id,

af.model AS aircraft\_model

FROM flights f

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

WHERE model LIKE '%Boeing%' AND status IN ('Cancelled','Delayed');

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

Expected Output : Airport\_name

**Answer:**

SELECT

airport\_name

FROM airports a

LEFT JOIN flights f ON f.arrival\_airport = a.airport\_code

WHERE status = 'Cancelled'

ORDER BY airport\_name DESC

LIMIT 1;

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

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

**Answer:**SELECT

flight\_id,

model as aircraft\_model

FROM flights f

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

WHERE 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**:SELECT

Flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport

FROM flights

WHERE (departure\_airport, scheduled\_departure) IN

(

SELECT

departure\_airport,

MAX(scheduled\_departure)

FROM flights

GROUP BY departure\_airport

);

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:**

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 flights

WHERE (departure\_airport, scheduled\_departure) IN (

SELECT

departure\_airport,

MIN(scheduled\_departure)

FROM flights

WHERE status = 'Cancelled'

GROUP BY departure\_airport

);

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

*Expected Output : Flight\_id*

**Answer**:SELECT f.flight\_id

FROM flights f

JOIN aircrafts af on af.aircraft\_code = f.aircraft\_code

WHERE af.model like '%Boeing%' AND f.status = 'Cancelled';

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

*Expected Output : Flight\_no, range*

**Answer:**SELECT

f.flight\_id,

MAX(af.range) AS highest\_range

FROM flights f

JOIN aircrafts af

ON af.aircraft\_code = f.aircraft\_code

GROUP BY f.flight\_id

ORDER BY highest\_range DESC;