**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

t.ticket\_no,

bp.boarding\_no,

bp.seat\_no as seat\_number,

t.passenger\_id,

t.passenger\_name

from  tickets as t

join boarding\_passes as bp

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

order by boarding\_no

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

**Answer:** select seat\_no

from(select seat\_no,

count(seat\_no) as total\_count

from seats

group by seat\_no

order by 2 asc

limit 1 ) as seat\_no

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 MonthlyMaxAmounts as (

SELECT

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

1.passenger\_id,

1.passenger\_name,

b.total\_amount,

ROW\_NUMBER() OVER(PARTITION BY TO\_CHAR(b.book\_date, 'Mon-

YY')

ORDER BY b.total\_amount DESC) as Row\_Num

FROM bookings b

JOIN tickets t

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

SELECT

Month\_Name,

passenger\_id,

passenger\_name,

total\_amount

FROM MonthlyMaxAmounts

WHERE Row\_Num = 1

ORDER BY Month\_Name

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 MonthlyMinAmounts AS (

SELECT

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

t.passenger\_id,

t.passenger\_name,

b.total\_amount,

ROW\_NUMBER() OVER(PARTITION BY TO\_CHAR(b.book\_date, 'Mon-

YY')

  ORDER BY b.total\_amount ASC) AS RowNum

FROM bookings b

JOIN tickets t

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

SELECT

Month\_Name,

passenger\_id,

passenger\_name,

total\_amount

FROM MonthlyMinAmounts

WHERE RowNum = 1

ORDER BY Month\_Name

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(f.flight\_id) AS flight\_count

FROM tickets t

JOIN ticket\_flights f

ON t.ticket\_no=f.ticket\_no

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

HAVING COUNT(f.flight\_id) = 1 OR COUNT(f.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.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,

(scheduled\_arrival-scheduled\_departure)/60.0 AS Duration

FROM

    Flights

    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:** SELECT

    flight\_id,

    flight\_no,

    scheduled\_departure,

    scheduled\_arrival,

    departure\_airport,

    CAST(scheduled\_departure as time) as timings

FROM flights

WHERE CAST(scheduled\_departure AS 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 EarlyMorningFlights AS (

SELECT

flight\_id,

flight\_no,

scheduled\_departure,

scheduled\_arrival,

departure\_airport,

CAST(scheduled\_departure AS time) as timing,

ROW\_NUMBER() OVER(PARTITION BY departure\_airport ORDER BY

scheduled\_departure) AS row\_num

FROM flights

WHERE CAST(scheduled\_departure AS time)BETWEEN '06:00:00' AND

'11:00:00')

SELECT

flight\_id,

flight\_no,

scheduled\_departure,

scheduled\_arrival,

departure\_airport,

timing

FROM EarlyMorningFlights

WHERE row\_num = 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 1,2

order by 1,2

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\_code\_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

airport\_name

FROM airports

WHERE airport\_code=(

SELECT

departure\_airport

FROM flights

GROUP BY departure\_airport

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

airport\_name

FROM airports

WHERE airport\_code = (

SELECT

departure\_airport

FROM flights

GROUP BY departure\_airport

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(flight\_id) 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 as f

join aircrafts as a

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

where a.range between 3000 and 6000

GROUP BY f.flight\_no, f.aircraft\_code, a.range

ORDER BY a.range

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(flight\_id) as flight\_count

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) as flight\_count

from flights

where departure\_airport in ('KZN','DME','NBC','NJC','GDX','SGC','VKO','ROV')

group by departure\_airport

order by 2 desc

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 as f

join aircrafts as a

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

where a.range between 3000 and 6000

and f.departure\_airport = 'DME'

GROUP BY f.flight\_no, f.aircraft\_code, a.range,

f.departure\_airport

ORDER BY a.range

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 as f

join aircrafts as 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: s**elect f.flight\_id,

a.model as aircraft\_model

from flights as f

join aircrafts as 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

    a.airport\_name

FROM

    flights f

JOIN

    airports a ON f.arrival\_airport = a.airport\_code

WHERE

    f.status = 'Cancelled'

GROUP BY

    a.airport\_name

ORDER BY

    COUNT(\*) DESC

    limit 1;

**explaination : 2 airports have highest cancelled flights. The count is same and name of the airports are: Begishevo Airport and Koltsovo Airport**

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 as f

join aircrafts as 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 LastFlights AS (

SELECT

f.flight\_id,

f.flight\_no,

f.scheduled\_departure,

f.departure\_airport,

MAX(scheduled\_departure) OVER(PARTITION BY departure\_airport,

DATE(scheduled\_departure)) AS max\_scheduled\_departure

FROM flights AS f)

SELECT

flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport

FROM LastFlights

WHERE scheduled\_departure=max\_scheduled\_departure

ORDER BY 2

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 bookings as b

JOIN

    tickets as t

   on b.book\_ref = t.book\_ref

   join BOARDING\_PASSES bp

   on t.ticket\_no = bp.ticket\_no

   join flights as f

   on bp.flight\_id = f.flight\_id

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:** SELECT

flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport

FROM

(

SELECT

flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport,

ROW\_NUMBER() OVER(PARTITION BY departure\_airport ORDER BY

scheduled\_departure ASC) AS m

FROM flights

WHERE status='cancelled'

) AS t

WHERE m = 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 f.Flight\_ID,

max(a.range)

FROM Flights f

join aircrafts a

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

group by 1

order by 2 desc