**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-mmm-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

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:** with t1 as

(

select

seat\_no,

rank() over (order by count(seat\_no) asc) as seat\_rnk

from boarding\_passes

group by 1

)

select

seat\_no

from t1

where seat\_rnk = 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 t1 as

(

select

to\_char(b.book\_date,'mmm-yy') month\_name,

t.passenger\_id,

t.passenger\_name,

b.total\_amount,

sum(b.total\_amount) as total\_per\_person

from bookings b

join tickets t

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

group by 1,2,3,4

),

t2 as

(

select

\*,

rank() over (partition by month\_name order by total\_per\_person desc) as amt\_rank

from t1

)

select

month\_name,

passenger\_id,

passenger\_name,

total\_amount

from t2

where amt\_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 t1 as

(

select

to\_char(b.book\_date,'mmm-yy') month\_name,

t.passenger\_id,

t.passenger\_name,

b.total\_amount,

sum(b.total\_amount) as total\_per\_person

from bookings b

join tickets t

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

group by 1,2,3,4

),

t2 as

(

select

\*,

rank() over (partition by month\_name order by total\_per\_person asc) as amt\_rank

from t1

)

select

month\_name,

passenger\_id,

passenger\_name,

total\_amount

from t2

where amt\_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:** with ticket\_count\_table as

(

select

ticket\_no,

count(ticket\_no) as ticket\_count

from ticket\_flights

group by 1

)

select

t.passenger\_id,

t.passenger\_name,

tc.ticket\_no,

tc.ticket\_count as flight\_count

from ticket\_count\_table tc

join tickets t

on tc.ticket\_no = t.ticket\_no

where ticket\_count>1

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

Expected Output: just one number is required.

**Answer:** select

count(tf.ticket\_no)

from ticket\_flights tf

left join boarding\_passes bp

on bp.ticket\_no = tf.ticket\_no

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:** with t1 as

(

select

distinct flight\_no,

departure\_airport,

arrival\_airport,

aircraft\_code,

(scheduled\_arrival - scheduled\_departure) as duration

from flights

),

t2 as

(

select

\*,

rank() over (order by duration desc) as max\_duration\_rnk

from t1

)

select

flight\_no,

departure\_airport,

arrival\_airport,

aircraft\_code,

duration

from t2

where max\_duration\_rnk = 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,

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 t1 as

(

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 '02:00:00' and '06:00:00'

),

t2 as

(

select

\*,

rank() over (partition by departure\_airport order by timings asc) as rnk

from t1

)

select

flight\_id,

flight\_no,

scheduled\_departure,

scheduled\_arrival,

departure\_airport,

timings

from t2

where rnk = 1

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) seat\_count

from seats

group 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) count\_of\_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:** with t1 as

(

select

a.airport\_name,

count(f.scheduled\_departure) flight\_count

from airports a

join flights f

on a.airport\_code = f.departure\_airport

group by 1

),

t2 as

(

select

\*,

rank() over (order by flight\_count desc) as rnk

from t1

)

select

airport\_name

from t2

where rnk = 1

1. **Find out the name of the airport having least number of scheduled departure flights**

Expected Output : Airport\_name

**Answer:** with t1 as

(

select

a.airport\_name,

count(f.scheduled\_departure) flight\_count

from airports a

join flights f

on a.airport\_code = f.departure\_airport

group by 1

),

t2 as

(

select

\*,

rank() over (order by flight\_count asc) as rnk

from t1

)

select

airport\_name

from t2

where rnk = 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

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(flight\_id) 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 1

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 departure\_airport = 'DME'

and 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 as aircraft\_model

from aircrafts a

join flights f

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

where (model ilike '%Airbus%') and status in ('Delayed', 'Cancelled')

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 flights f

join aircrafts a

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

where model ilike '%Boeing%' and status in ('Delayed','Cancelled')

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

Expected Output : Airport\_name

**Answer:** with t1 as

(

select

a.airport\_name,

count(status) as cancel\_count

from airports a

join flights f

on a.airport\_code = f.arrival\_airport

where status = 'Cancelled'

group by 1

),

t2 as

(

select

\*,

rank() over (order by cancel\_count desc) as rnk

from t1

)

select

airport\_name

from t2

where rnk = 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 a

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

where model ilike '%Airbus%'

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

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

**Answer:** with t1 as

(

select

flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport,

rank() over (partition by departure\_airport order by scheduled\_departure desc) as rnk

from flights

)

select

flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport

from t1

where rnk = 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

passenger\_name,

sum(amount) as refund\_amount

from tickets t

join ticket\_flights tf

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

join flights f

on tf.flight\_id = f.flight\_id

where status = 'Cancelled'

group by 1

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

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

**Answer:** with t1 as

(

select

flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport,

rank() over (partition by departure\_airport order by scheduled\_departure asc) as rnk

from flights

where status = 'Cancelled'

)

select

flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport

from t1

where rnk =1

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

*Expected Output : Flight\_id*

**Answer:** select

flight\_id

from flights f

join aircrafts a

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

where model like '%Airbus%' and status = 'Cancelled'

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

*Expected Output : Flight\_no, range*

**Answer:** with t1 as

(

select

flight\_id,

range,

rank() over (order by range desc) as rnk

from flights f

join aircrafts a

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

)

select

flight\_id,

range

from t1

where rnk = 1