**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\prajw\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

bp.ticket\_no,

bp.boarding\_no,

bp.seat\_no as seat\_number,

t.passenger\_id,

t.passenger\_name

from boarding\_passes bp

join tickets t

on bp.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 allocation\_count

from seats

group by 1

having count(\*) = 1

order by 2 asc

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 table1 as (

select

b.book\_date as book\_date,

t.passenger\_id as passenger\_id,

t.passenger\_name as passenger\_name,

max(b.total\_amount) as total\_amount

from bookings b

join tickets t

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

group by 1,2,3),

table2 as (

select \*,

dense\_rank() over (partition by extract(month from book\_date) order by total\_amount desc) as rnk

from table1

)

select

to\_char(book\_date, 'Mon-yy') as Month\_name,

passenger\_id,

passenger\_name,

total\_amount

from table2

where rnk = 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 table1 as (

select

b.book\_date as book\_date,

t.passenger\_id as passenger\_id,

t.passenger\_name as passenger\_name,

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

from bookings b

join tickets t

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

group by 1,2,3),

table2 as (

select \*,

dense\_rank() over (partition by extract(month from book\_date) order by total\_amount asc) as rnk

from table1

)

select

to\_char(book\_date, 'Mon-yy') as Month\_name,

passenger\_id,

passenger\_name,

total\_amount

from table2

where rnk = 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(tf.flight\_id) as flight\_count

from tickets t

join ticket\_flights tf

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

group by 1,2,3

having count(tf.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.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,

extract(epoch from (actual\_arrival :: timestamp - actual\_departure :: timestamp ))/3600 as durations

from flights

where actual\_arrival is not null

and actual\_departure is not null

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,

to\_char(scheduled\_departure, 'YYYY-MM-DD HH12:MI AM') || '-' || to\_char(scheduled\_arrival, 'HH12:MI AM') as timings

from flights

where extract(hour from scheduled\_departure) >=6

and extract(hour from scheduled\_departure)<11

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 table1 as (

select

flight\_id, flight\_no, scheduled\_departure, scheduled\_arrival, departure\_airport,

to\_char(scheduled\_departure, 'YY-MM-DD HH12:MI AM') as departure\_time,

to\_char(scheduled\_arrival, 'YY-MM-DD HH12:MI AM') as arrival\_time,

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

from flights

where extract(hour from scheduled\_departure) >=6

and extract(hour from scheduled\_departure) < 11

)

select

flight\_id, flight\_no, scheduled\_departure, scheduled\_arrival, departure\_airport,

departure\_time || '-' || arrival\_time as timings

from table1

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

a.Aircraft\_code,

s.fare\_conditions,

count(seat\_no) as seat\_count

from seats s

join aircrafts a

on s.Aircraft\_code = a.Aircraft\_code

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)

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 flights f

join airports a

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

group by 1

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

from flights f

join airports a

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

group by 1

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 (\*) 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,

a.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 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

f.flight\_no,

a.aircraft\_code,

a.range,

f.departure\_airport

from flights f

join aircrafts a

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

where a.range between 3000 and 6000 and

departure\_airport = 'DME'

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

a.Airport\_name

from flights f

join airports a

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

where f.status = 'Cancelled'

group by 1

order by count(\*) 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

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 last\_flight as (

select

Flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport,

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

from flights

)

select

Flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport

from last\_flight

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

t.Passenger\_name,

tf.amount as total\_refund

from flights f

join ticket\_flights tf

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

join tickets t

on tf.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 first\_cancelled\_flight as (

select

Flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport,

row\_number() 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 first\_cancelled\_flight

where rnk = 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

distinct flight\_no,

a.range

from flights f

join aircrafts a

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

where range in (select max (range) from aircrafts)