**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,

t.passenger\_id,

t.passenger\_name

from

tickets t

join boarding\_passes bp

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

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

**Answer:** With t1 as (select

s.seat\_no,

count(bp.seat\_no),

rank()over (order by count(bp.seat\_no)) as rnk

from seats s

join boarding\_passes bp

on

bp.seat\_no=s.seat\_no

group by

1)

select

seat\_no

FROM t1

WHERE 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,'Mon-yy')as Month\_name,

passenger\_id,

passenger\_name,

total\_amount,

rank()over (partition by (to\_char(b.book\_date,'Mon-yy')) order by total\_amount desc) as rnk

from bookings b

join tickets t

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

)

select

Month\_name,

passenger\_id,

passenger\_name,

total\_amount

from t1

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 t1 as(select

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

passenger\_id,

passenger\_name,

total\_amount,

rank()over (partition by (to\_char(b.book\_date,'Mon-yy')) order by total\_amount) as rnk

from bookings b

join tickets t

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

)

select

Month\_name,

passenger\_id,

passenger\_name,

total\_amount

from t1

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

passenger\_id,

passenger\_name,

t.ticket\_no as ticket\_number,

count(flight\_id) as flight\_count

from tickets t

join boarding\_passes bp

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

group by 1,2,3

having count(flight\_id) >1

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 bp

 on t.ticket\_no=bp.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

Flight\_no,

departure\_airport,

arrival\_airport,

aircraft\_code,

(scheduled\_arrival-scheduled\_departure) as durations,

rank()over (order by (scheduled\_arrival-scheduled\_departure)desc) as rnk

from

flights

)

select

Flight\_no,

departure\_airport,

arrival\_airport,

aircraft\_code,

durations

from t1

where 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,

  to\_char(scheduled\_departure,'HH24:MI:SS') as timings

FROM

  flights

WHERE

  to\_char(scheduled\_departure,'HH24:MI:SS') BETWEEN '06:00:00' AND '11:00:00'

GROUP BY

  flight\_id, flight\_no, scheduled\_departure, scheduled\_arrival;

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,

  to\_char(scheduled\_departure,'HH24:MI:SS') as timings,

  rank()over (partition by departure\_airport order by(to\_char(scheduled\_departure,'HH24:MI:SS'))) as rnk

FROM

  flights)

  SELECT

  flight\_id,

  flight\_no,

  scheduled\_departure,

  scheduled\_arrival,

  departure\_airport,

  timings

  FROM

  t1

  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 like '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) as 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(aircraft\_code) as count\_of\_aircraft\_codes

from seats

where

fare\_conditions like 'Business'

having

count(seat\_no) >= 1

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

Expected Output : Airport\_name

**Answer:** with t1 as (SELECT

  airport\_name,

  COUNT(flight\_id) as flight\_count,

  RANK() OVER (ORDER BY COUNT(flight\_id) DESC) as rnk

FROM

  flights f

JOIN

  airports a

ON

  f.departure\_airport = a.airport\_code

GROUP BY

  airport\_name)

SELECT

airport\_name

from t1

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

  airport\_name,

  COUNT(flight\_id) as flight\_count,

  RANK() OVER (ORDER BY COUNT(flight\_id)) as rnk

FROM

  flights f

JOIN

  airports a

ON

  f.departure\_airport = a.airport\_code

GROUP BY

  airport\_name)

SELECT

airport\_name

from t1

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 LIKE '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\_no,

a.aircraft\_code,

a.range

from

aircrafts a

join flights f

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

where 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 LIKE 'URS' OR departure\_airport LIKE 'KUF')

  AND (arrival\_airport LIKE 'KUF' OR arrival\_airport LIKE '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(flight\_id) as flight\_count

FROM

  flights

WHERE

  departure\_airport LIKE 'NOZ' OR departure\_airport LIKE '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 count\_of\_flights

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

aircrafts a

join flights f

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

where

departure\_airport like '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

f.Flight\_id,

a.model as aircraft\_model

from

aircrafts a

join flights f

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

where

a.model like '%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

f.Flight\_id,

a.model as aircraft\_model

from

aircrafts a

join flights f

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

where

a.model like '%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,

  rank() over (order by count(flight\_id)desc) as rnk

FROM

  airports a

JOIN

  flights f

ON

  f.arrival\_airport = a.airport\_code

WHERE

  f.status LIKE 'Cancelled'

Group by

1)

SELECT

Airport\_name

from t1

where rnk = 1

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

 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 t1 as(

SELECT

f.Flight\_id,

f.flight\_no,

f.scheduled\_departure,

f.departure\_airport,

to\_char(scheduled\_departure,'yyyy-mm-dd')as date\_,

rank()over (partition by departure\_airport order by (to\_char(scheduled\_departure,'yyyy-mm-dd')) desc ) as rnk

from

flights f

join airports a

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

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

t.Passenger\_name,

tf.Amount as total\_refund,

f.status

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'

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

f.Flight\_id,

f.flight\_no,

f.scheduled\_departure,

f.departure\_airport,

f.status,

to\_char(scheduled\_departure,'yyyy-mm-dd')as date\_,

rank()over (partition by departure\_airport order by (to\_char(scheduled\_departure,'yyyy-mm-dd')) )as rnk

from

flights f

join airports a

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

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

f.Flight\_id

from flights f

join aircrafts a

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

where a.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

f.Flight\_no,

a.range,

rank() over( order by a.range desc) rnk

from flights f

join aircrafts a

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

Select

Flight\_no,

range

from t1

where rnk = 1