**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,

 b.boarding\_no,

 b.seat\_no,

 t.passenger\_id,

 t.passenger\_name

 from tickets t join boarding\_passes b

 on t.ticket\_no=b.ticket\_no

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

**Answer:** with cte as (select

seat\_no,

rank() over(order by count(ticket\_no)) as rnk

from boarding\_passes

group by 1)

select

seat\_no

from cte

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 cte as(SELECT

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

passenger\_id, passenger\_name,total\_amount,

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

from bookings b join tickets t

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

select

month\_name,passenger\_id,passenger\_name,total\_amount,rnk

from cte

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 cte as(SELECT

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

passenger\_id, passenger\_name,total\_amount,

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

from bookings b join tickets t

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

select

month\_name,passenger\_id,passenger\_name,total\_amount,rnk

from cte

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,tf.ticket\_no,

count(flight\_id) as flight\_count

from ticket\_flights tf join tickets t

on tf.ticket\_no=t.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(\*) as without\_boarding\_passes

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:** with cte as (select

flight\_no,departure\_airport,arrival\_airport,aircraft\_code,

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

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

from flights

where actual\_departure is not null

and actual\_arrival is not null)

select

flight\_no,departure\_airport,arrival\_airport,aircraft\_code,durations

from cte

where rank=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 timing

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 cte as(select

    flight\_id,

    flight\_no,

    scheduled\_departure,

    scheduled\_arrival,

    cast(scheduled\_departure as time) as timing,

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

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,timing

from cte

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) 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(distinct aircraft\_code) as aircraft\_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 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

airport\_name

from flights f join airports a

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

group by 1

order by count(\*)

limit 1

1. **How many flights from ‘DME’ airport don’t have actual departure?**

Expected Output : Flight Count

**Answer:** select

count(\*)

from flights f

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\_no,a.aircraft\_code,range

from flights f join aircrafts a

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

flight\_no,

a.aircraft\_code,

range,

departure\_airport

from flights f join aircrafts a

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

where 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

flight\_id,

model as aircraft\_model

from flights f join aircrafts a

on f.aircraft\_code=a.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,

model as aircraft\_model

from flights f join aircrafts a

on f.aircraft\_code=a.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:** with cte as (

   select a.airport\_name,

           count(\*) as cancelled\_flights,

           rank() over (order by count(\*) desc) as flight\_rank

    from Flights f

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

    where f.status = 'Cancelled'

    group by  a.airport\_name

)

select airport\_name

from cte

where flight\_rank = 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 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 cte as(select

 departure\_airport,max(scheduled\_departure) as last\_flight

 from flights

 group by 1),

 cte2 as(

     select

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

 from flights )

 select

 flight\_id,flight\_no,scheduled\_departure,c.departure\_airport

 from cte c join cte2 c2

 on c.departure\_airport=c2.departure\_airport

 and c.last\_flight=c2.scheduled\_departure

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)

from flights f join  ticket\_flights tf

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

join tickets t

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

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 cte 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 cte

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 status='Cancelled'

and model like '%Airbus%'

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

*Expected Output : Flight\_no, range*

**Answer:** with cte as (select

distinct flight\_no,range,

dense\_rank() over(order by range desc) as rank

from flights f join aircrafts a

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

select

flight\_no,range

from cte

where

rank=1