**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-MM-DD') as book\_date\_format,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

 tickets.ticket\_no, boarding\_no ,seat\_no ,passenger\_id, passenger\_name

 FROM tickets

 JOIN boarding\_passes

 ON tickets.ticket\_no= boarding\_passes.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 ,count(tickets.ticket\_no),rank() over(order by count(tickets.ticket\_no) desc ) as trank

 FROM tickets

 JOIN boarding\_passes

 ON tickets.ticket\_no= boarding\_passes.ticket\_no

 GROUP BY 1

 ORDER BY 2 DESC  )

 SELECT seat\_no FROM cte WHERE trank=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 bmonth, passenger\_id,passenger\_name, total\_amount

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

 from tickets join bookings on tickets.book\_ref=bookings.book\_ref )

 SELECT bmonth,passenger\_id,passenger\_name,total\_amount

 from cte where rankr=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 bmonth, passenger\_id,passenger\_name, total\_amount

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

 from tickets join bookings on tickets.book\_ref=bookings.book\_ref )

 SELECT bmonth,passenger\_id,passenger\_name,total\_amount

 from cte where rankr=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, tickets.ticket\_no, count(flight\_id) as flight\_count

from tickets join ticket\_flights

on tickets.ticket\_no=ticket\_flights.ticket\_no

GROUP BY1,2,3

having count(flight\_id)>1

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

Expected Output: just one number is required.

**Answer:**

 SELECT count( distinct ticket\_no)-(SELECT count(distinct ticket\_no) from boarding\_passes) as boarding\_tickets\_count  from tickets

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

scheduled\_arrival-scheduled\_departure as duration

from flights )

,rank\_table as (SELECT \* , rank() over(order by duration desc) as drank from cte )

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

from rank\_table where drank=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,'hh12.mi AM') as timings

from flights

where extract(hour from scheduled\_departure )  between 6 and 10

order by 5 desc

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, departure\_airport,

to\_char(scheduled\_departure,'hh12.mi AM') as timing ,

rank() over(partition by departure\_airport order by to\_char(scheduled\_departure,'hh12.mi AM')asc) as departure\_rank

from flights

where extract(hour from scheduled\_departure )  between 6 and 10

)

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

from cte where departure\_rank=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,fare\_conditions,count(seat\_no)

  from aircrafts a join seats s

  on a.aircraft\_code=s.aircraft\_code

  GROUP BY1,2

1. **How many aircrafts codes have at least one Business class seats?**

Expected Output : Count of aircraft codes

**Answer:**

with cte as ( SELECT a.aircraft\_code,count(seat\_no) business\_seats\_count

from aircrafts a join seats s

on a.aircraft\_code=s.aircraft\_code

where fare\_conditions='Business'

GROUP BY1 )

SELECT count(aircraft\_code) from cte where business\_seats\_count>1

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

Expected Output : Airport\_name

**Answer:**

  with cte as (

  SELECT departure\_airport,airport\_name, count(actual\_departure) ,rank() over( order by count(actual\_departure) desc) drank

  from flights join airports on flights.departure\_airport=airports.airport\_code

  GROUP BY1,2 order by 3 desc

  )

  SELECT airport\_name from cte where drank=1

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

Expected Output : Airport\_name

**Answer:**

  with cte as (

  SELECT departure\_airport,airport\_name, count(scheduled\_departure) ,rank() over( order by count(scheduled\_departure) asc) drank

  from flights join airports on flights.departure\_airport=airports.airport\_code

  GROUP BY1,2 order by 3 asc

  )

  SELECT airport\_name from cte where drank=1

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

Expected Output : Flight Count

**Answer:**

  SELECT 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: Question says flight ids and output says flight number, so I have SELECTed both**

  SELECT  flight\_id, flight\_no,f.aircraft\_code ,range

  from flights f join aircrafts on f.aircraft\_code=aircrafts.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(\*) from flights

  where  departure\_airport in ('URS','KUF') and arrival\_airport in ('KUF','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(\*) 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(\*) from flights

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

  GROUP BYdeparture\_airport

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: As same flight number have different id , I have SELECTed distinct flight\_no**

  SELECT distinct flight\_no,f.aircraft\_code ,range ,departure\_airport

  from flights f join aircrafts on f.aircraft\_code=aircrafts.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,aircraft\_code from flights

 where aircraft\_code in (select aircraft\_code from aircrafts where  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 flight\_id,aircraft\_code from flights

 where aircraft\_code in (select aircraft\_code from aircrafts where  model like '%Boeing%') and

 status in ('Delayed','Cancelled')

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

Expected Output : Airport\_name

**Answer:**

 with cte as ( select airport\_name, count(\*) ,rank() over(order by count(\*) desc) as crank

 from flights join airports

 on flights.arrival\_airport=airports.airport\_code

 where status='Cancelled'

 group by airport\_name)

 select airport\_name from cte where crank=1

1. ***Identify flight ids which are using “Airbus aircrafts”***

*Expected Output : Flight\_id,aircraft\_model*

**Answer:**

 select  flight\_id, model

 from flights join aircrafts

 on flights.aircraft\_code=aircrafts.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 flight\_id,flight\_no,scheduled\_departure,departure\_airport ,

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

 from flights)

 select flight\_id,flight\_no,scheduled\_departure,departure\_airport from cte where drank=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,amount

from tickets join ticket\_flights

on tickets.ticket\_no=ticket\_flights.ticket\_no

where flight\_id in (select flight\_id from flights 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 cte as ( select flight\_id,flight\_no,scheduled\_departure,departure\_airport ,

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

 from flights where status='Cancelled')

 select flight\_id,flight\_no,scheduled\_departure,departure\_airport from cte where drank=1

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

*Expected Output : Flight\_id*

**Answer:**

 select  flight\_id

 from flights join aircrafts

 on flights.aircraft\_code=aircrafts.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 cte as (

  SELECT distinct flight\_no,range ,rank() over(order by range desc ) rrank

  from flights f join aircrafts on f.aircraft\_code=aircrafts.aircraft\_code )

  SELECT flight\_no from cte where rrank=1