**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.

*SELECT*

*bp.ticket\_no, bp.boarding\_no, bp.seat\_no as seat\_number, t.passenger\_id, t.passenger\_name*

*FROM*

*boarding\_passes as bp*

*JOIN tickets as t*

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

*ORDER BY 1*

**Answer:**

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

**Answer:**

*with t1 as(SELECT*

*seat\_no, count(ticket\_no) as seat\_count*

*FROM*

*boarding\_passes*

*group by 1*

*order by 2)*

*SELECT*

*seat\_no, seat\_count*

*FROM t1*

*WHERE seat\_count = (select min(seat\_count) from t1)*

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') as Month\_name,*

*t.passenger\_id,*

*t.passenger\_name,*

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

*FROM bookings as b*

*join tickets as t*

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

*GROUP BY 1,2,3*

*ORDER BY 1 asc, 2 desc),*

*t2 as (*

*SELECT*

*\*, dense\_rank() over(partition by Month\_name order by total\_amount desc) as rnk*

*FROM t1)*

*SELECT*

*Month\_name, passenger\_id, passenger\_name, total\_amount*

*FROM t2*

*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, 'mmm-yy') as Month\_name,*

*t.passenger\_id,*

*t.passenger\_name,*

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

*FROM bookings as b*

*join tickets as t*

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

*GROUP BY 1,2,3*

*ORDER BY 1 asc, 2 desc),*

*t2 as (*

*SELECT*

*\*, dense\_rank() over(partition by Month\_name order by total\_amount) as rnk*

*FROM t1)*

*SELECT*

*Month\_name, passenger\_id, passenger\_name, total\_amount*

*FROM t2*

*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(f.flight\_no)*

*FROM flights as f*

*join ticket\_flights as tf*

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

*join tickets as t*

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

*group by 1,2,3*

*having count(flight\_no)>1*

*order by 4*

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

Expected Output: just one number is required.

**Answer:**

*SELECT count(\*)*

*FROM boarding\_passes as bp*

*right join tickets as t*

*on bp.ticket\_no = t.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*

*distinct flight\_no as flight\_number, departure\_airport, arrival\_airport, aircraft\_code,*

*coalesce((actual\_arrival - actual\_departure), (scheduled\_arrival - scheduled\_departure)) as duration*

*FROM flights*

*order by 5 desc*

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:**

*with t1 as(*

*SELECT*

*flight\_id, flight\_no, to\_char(scheduled\_departure, 'HH24:MI') as departure\_time, scheduled\_departure, scheduled\_arrival*

*FROM flights),*

*t2 as(*

*SELECT*

*\*,*

*case*

*when departure\_time between '06:00' and '11:00' then 'Morning'*

*else 'None'*

*end as Timing*

*FROM t1)*

*SELECT*

*flight\_id,flight\_no,scheduled\_departure,scheduled\_arrival,Timing*

*FROM t2*

*where Timing = 'Morning'*

*order by departure\_time*

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, departure\_airport, to\_char(scheduled\_departure, 'HH24:MI') as departure\_time, scheduled\_departure, scheduled\_arrival*

*from flights),*

*t2 as (select*

*\*, case*

*when departure\_time between '02:00' and '06:00' then 'Earliest Morning'*

*else 'None'*

*End as Timing*

*from t1),*

*t3 as (*

*select*

*flight\_id, flight\_no,departure\_airport,departure\_time, rank() over(partition by departure\_airport order by Timing asc) as rnk,*

*Timing, scheduled\_departure,scheduled\_arrival*

*from t2*

*where Timing = 'Earliest Morning')*

*select*

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

*from t3*

*where rnk = 1*

*order by timing*

1. **Questions:** **Find list of airport codes in Europe/Moscow timezone**

Expected Output: Airport\_code.

**Answer:**

*SELECT*

*Airport\_code, timezone*

*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*

*order by 1, 2*

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

Expected Output : Count of aircraft codes

**Answer:**

*with t1 as (SELECT*

*aircraft\_code, fare\_conditions, count(seat\_no) as seat\_count*

*FROM seats*

*where fare\_conditions = 'Business'*

*group by 1, 2*

*having count(seat\_no)>=1)*

*SELECT count(\*) FROM t1*

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

Expected Output : Airport\_name

**Answer:**

*with t1 as (select*

*f.departure\_airport, a.airport\_name, count(flight\_id) as departure\_flight\_count*

*from flights as f*

*join airports as a*

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

*group by 1, 2*

*order by 3 desc )*

*select*

*airport\_name*

*from t1*

*where departure\_flight\_count = (select max(departure\_flight\_count) from t1)*

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

Expected Output : Airport\_name

**Answer:**

*with t1 as (select*

*f.departure\_airport, a.airport\_name, status, count(flight\_id) as scheduled\_dep\_flights*

*from flights as f*

*join airports as a*

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

*where status = 'Scheduled'*

*group by 1, 2,3*

*order by 4 asc)*

*select*

*airport\_name*

*from t1*

*where scheduled\_dep\_flights = (select min(scheduled\_dep\_flights) from t1)*

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

Expected Output : Flight Count

**Answer:**

*WITH T1 AS (*

*select*

*departure\_airport, status, actual\_departure*

*from flights*

*where actual\_departure is null*

*and departure\_airport = 'DME')*

*Select*

*count(\*) from t1*

1. **Identify flight ids having range between 3000 to 6000**

Expected Output : Flight\_Number , aircraft\_code, ranges

**Answer:**

*with t1 as (*

*select*

*flight\_no, a.aircraft\_code, range*

*from aircrafts as a*

*join flights as f*

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

*where range between 3000 and 6000*

*order by 1 )*

*select distinct \* from t1*

1. **Write a query to get the count of flights flying between URS and KUF?**

Expected Output : Flight\_count

**Answer:**

*SELECT*

*count (flight\_no)*

*FROM flights*

*where departure\_airport = 'URS' and arrival\_airport = 'KUF'*

*or departure\_airport = 'KUF' and arrival\_airport = '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\_no)*

*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(flight\_no) as count\_of\_flight*

*FROM flights*

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

*GROUP BY 1*

*order by 2*

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.aircraft\_code, a.range, f.departure\_airport*

*FROM flights as f*

*join aircrafts as a*

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

*where a.range between 3000 and 6000*

*and departure\_airport = 'DME'*

*order by 4*

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, a.model*

*from flights as f*

*full join aircrafts as a*

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

*where status in ('Cancelled','Delayed')*

*and model like '%Airbus%'*

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 as f*

*join aircrafts as 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

*with t1 as(select*

*arrival\_airport, a.airport\_name, status, count(flight\_id) as flight\_count*

*from flights as f*

*join airports as a*

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

*where status = 'Cancelled'*

*group by 1,2,3*

*order by 4 desc)*

*select*

*airport\_name*

*from t1*

*where flight\_count = (select max(flight\_count) from t1)*

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

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

**Answer:**

*select*

*flight\_id, a.model as aircraft\_model*

*from flights as f*

*join aircrafts as a*

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

*where model like '%Airbus%'*

*order by 1*

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*

*to\_char(scheduled\_departure, 'dd-mm-yyyy') as scheduled\_departure, flight\_id, flight\_no, departure\_airport,*

*dense\_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*

*t.passenger\_name, amount as total\_refund*

*from flights as f*

*full outer join ticket\_flights as tf*

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

*join tickets as t*

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

*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 t1 as(select*

*flight\_id, flight\_no,status, to\_char(scheduled\_departure, 'dd-mm-yyyy') as scheduled\_departure, departure\_airport,*

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

*join aircrafts as 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 f.Flight\_no, a.range as maxrange*

*from flights as f*

*join aircrafts as a*

*on f.aircraft\_code = f.aircraft\_code*

*where a.range = (select max(range) from aircrafts)*

*order by 1*