**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'),**

**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 b.ticket\_no,b.boarding\_no,b.seat\_no,**

**t.passenger\_id,t.passenger\_name**

**from boarding\_passes b**

**join tickets t**

**on b.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(seat\_no)**

**from seats**

**group by seat\_no**

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

**order by seat\_no 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:** **select to\_char(b.book\_date,'Mon-yy')as month\_name,t.passenger\_id,**

**t.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**

**order by total\_amount desc**

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:** **select to\_char(b.book\_date,'Mon-yy')as month\_name,t.passenger\_id,**

**t.passenger\_name, min(b.total\_amount)as total\_amount**

**from bookings b**

**join tickets t**

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

**group by 1,2,3**

**order by total\_amount asc**

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**

**order by flight\_count desc**

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

Expected Output: just one number is required.

**Answer: select count(\*)**

**from boarding\_passes**

**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:** **select flight\_no,departure\_airport,**

**arrival\_airport,aircraft\_code,**

**(scheduled\_arrival-scheduled\_departure) as duration**

**from flights**

**order by 4 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,**

**(scheduled\_arrival-scheduled\_departure)as timing**

**from flights**

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

**and extract(hour from scheduled\_departure)<11**

**order by 3 asc**

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:** **select f.flight\_id,f.flight\_no,**

**f.scheduled\_departure ,f.scheduled\_arrival, f.departure\_airport,**

**(f.scheduled\_arrival-f.scheduled\_departure)as timing**

**from flights f**

**join (select departure\_airport,min(scheduled\_departure)as earliest\_departure**

**from flights where extract(hour from scheduled\_departure)>6**

**and extract(hour from scheduled\_departure)<11 group by 1) table1**

**on f.departure\_airport=table1.departure\_airport**

**and f.scheduled\_departure=table1.earliest\_departure**

**order by 3 asc**

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**

**order by aircraft\_code asc**

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\_code**

**from seats**

**group by fare\_conditions**

**having fare\_conditions ='Business' and count(seat\_no)>=1**

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

Expected Output : Airport\_name

**Answer:** **select a.airport\_name**

**from airports a**

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

**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 airports a**

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

**group by 1**

**order by count(f.scheduled\_departure) 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 as flight\_number,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') 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(\*)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(\*)**

**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 distinct 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 (range between 3000 and 6000) and departure\_airport='DME'**

**order by range asc**

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');**

**NOTE: THE OUTPUT SHOWS NULL VALUES BECAUSE IT DID NOT MEET THE CRITERIA THAT STATUS IS EITHER CANCELLED OR DELAYED AND FOR THE AIRBUS MODEL IT HAS OTHER STATUSES SUCH AS SCHEDULED, ARRIVED, ON TIME, DEPARTED.**

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:** **WITH CancelledFlightsPerAirport AS (SELECT a.airport\_name,**

**COUNT(f.flight\_id) AS cancelled\_flights**

**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,cancelled\_flights**

**FROM (**

**SELECT airport\_name,cancelled\_flights,**

**row\_number() OVER (ORDER BY cancelled\_flights DESC) AS rank**

**FROM CancelledFlightsPerAirport**

**) ranked\_airports**

**WHERE rank = 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 RankedFlights AS (**

**SELECT f.flight\_id,f.flight\_no,**

**f.scheduled\_departure,f.departure\_airport,**

**ROW\_NUMBER() OVER (PARTITION BY f.departure\_airport, DATE(f.scheduled\_departure)**

**ORDER BY f.scheduled\_departure DESC) AS flight\_rank**

**FROM Flights f**

**)**

**SELECT flight\_id,flight\_no,scheduled\_departure,**

**departure\_airport**

**FROM RankedFlights**

**WHERE flight\_rank = 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,SUM(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**

**WHERE f.status = 'Cancelled'**

**GROUP BY t.passenger\_name;**

**NOTE:** **THIS CODE SHOULD GIVE THE ANSWER BUT IT SHOWING NULL VALUES BECAUSE THE CANCELLED FLIGHT ID ARE NOT IN THE OTHER TABLE YOU CAN CHECK THIS BY CHECKING THE CANCELLED FLIGHT ID WITH THE OTHER TABLE.**

1. ***Identify date wise first cancelled flight id flying for every airport?***

*Expected Output : Flight\_id,flight\_number,schedule\_departure,departure\_airport*

**Answer:** **WITH RankedFlights AS (**

**SELECT f.flight\_id, f.flight\_no,**

**f.scheduled\_departure,f.departure\_airport,**

**ROW\_NUMBER() OVER (PARTITION BY f.departure\_airport, DATE(f.scheduled\_departure)**

**ORDER BY f.scheduled\_departure ASC) AS flight\_rank**

**FROM Flights f**

**WHERE f.status = 'Cancelled'**

**)**

**SELECT flight\_id,flight\_no,**

**scheduled\_departure,departure\_airport**

**FROM RankedFlights**

**WHERE flight\_rank = 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 a.model LIKE '%Airbus%'**

**AND f.status = 'Cancelled';**

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

*Expected Output : Flight\_no, range*

**Answer:** **WITH MaxRange AS (SELECT f.flight\_no,a.range,**

**rank()over(order by a.range desc)maxs**

**FROM Flights f**

**JOIN Aircrafts a ON f.aircraft\_code = a.aircraft\_code**

**group by 1,2**

**)**

**SELECT flight\_no,range**

**FROM MaxRange**

**where MaxRange.maxs=1**