**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 B.ticket\_no, B.boarding\_no, B.seat\_no AS seat\_number, T.passenger\_id, T.passenger\_name From BOARDING\_PASSES AS B Join TICKETS AS 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(\*) From BOARDING\_PASSES**

**Group By seat\_no**

**Order by 1 ASC**

**Limit 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, T.passenger\_id, T.passenger\_name, Sum(F.amount) As total\_amount**

**From BOOKINGS AS B join TICKETS AS T on B.book\_ref = T.book\_ref**

**Join TICKET\_FLIGHTS AS F on F.ticket\_no = T.ticket\_no**

**Group By 1,2,3),**

**T2 AS (Select month\_name, passenger\_id, passenger\_name, total\_amount,Rank() Over(Partition By Month\_name Order By total\_amount DESC) AS O\_rank From T1)**

**Select month\_name, passenger\_id, passenger\_name, total\_amount From T2**

**Where O\_rank = 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, T.passenger\_id, T.passenger\_name, Sum(F.amount) As total\_amount**

**From BOOKINGS AS B join TICKETS AS T on B.book\_ref = T.book\_ref**

**Join TICKET\_FLIGHTS AS F on F.ticket\_no = T.ticket\_no**

**Group By 1,2,3),**

**T2 AS (Select month\_name, passenger\_id, passenger\_name, total\_amount,Rank() Over(Partition By Month\_name Order By total\_amount ASC) AS O\_rank From T1)**

**Select month\_name, passenger\_id, passenger\_name, total\_amount From T2**

**Where O\_rank = 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, T.ticket\_no, Count(F.flight\_id) AS Flight\_count From TICKETS AS T Join TICKET\_FLIGHTS AS F**

**On T.ticket\_no = F.ticket\_no**

**Group By 1,2,3**

**Having Count(F.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) AS Ticket\_Without\_BP From TICKETS AS T Left Join BOARDING\_PASSES AS B**

**On T.ticket\_no = B.ticket\_no**

**Where B.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 flight\_no, departure\_airport, arrival\_airport, aircraft\_code, (scheduled\_arrival - scheduled\_departure) As durations**

**From FLIGHTS**

**Order By 5 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,**

**departure\_airport, To\_char(scheduled\_departure, 'HH24:MI') AS timings**

**From FLIGHTS**

**Where Extract(Hour From scheduled\_departure) between 6 AND 10**

**Or**

**(Extract(Hour From scheduled\_departure)= 11 AND Extract(Minute From scheduled\_departure)= 0);**

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') AS timings**

**From FLIGHTS**

**Where Extract(Hour From scheduled\_departure) between 6 AND 10**

**Or**

**(Extract(Hour From scheduled\_departure)= 11 AND Extract(Minute From scheduled\_departure)= 0)),**

**T2 As (Select flight\_id, flight\_no, scheduled\_departure, scheduled\_arrival, departure\_airport,**

**timings, Rank() Over(Partition By departure\_airport Order By scheduled\_departure) As Ranks From T1)**

**Select flight\_id, flight\_no, scheduled\_departure, scheduled\_arrival, departure\_airport, timings From T2**

**Where Ranks = 1;**

**NOTE – Considering Morning Flight timing as given in the last question.**

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 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\_with\_Business\_class 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 A.airport\_name From FLIGHTS AS F Join AIRPORTS AS A**

**on F.departure\_airport = A.airport\_code**

**Group By 1**

**Order By count(F.flight\_id) 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 FLIGHTS AS F Join AIRPORTS AS A**

**on F.departure\_airport = A.airport\_code**

**Group By 1**

**Order By count(F.flight\_id)**

**Limit 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 = '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, F.aircraft\_code, A.range AS ranges From AIRCRAFTS AS A Join FLIGHTS AS F**

**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(flight\_id) 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(flight\_id) 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(flight\_id) 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 F.flight\_no, F.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';**

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 AS F Join AIRCRAFTS As A**

**On F.aircraft\_code = A.aircraft\_code**

**Where A.model Like '%Airbus%' AND (F.status = 'Cancelled' OR F.status = '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 F.flight\_id, A.model As Aircraft\_model From FLIGHTS AS F Join AIRCRAFTS As 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:** **Select A.airport\_name From FLIGHTS AS F Join AIRPORTS AS A**

**On F.arrival\_airport = A.airport\_code**

**Where F.status = 'Cancelled'**

**Group By 1**

**Order By count(F.flight\_id) DESC**

**Limit 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 AS F Join AIRCRAFTS AS 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 T1 AS (SELECT flight\_id, flight\_no AS flight\_number, scheduled\_departure, departure\_airport,**

**RANK() OVER (PARTITION BY departure\_airport, DATE(scheduled\_departure) ORDER BY scheduled\_departure DESC) AS rank\_departure**

**FROM Flights)**

**SELECT flight\_id, flight\_number, scheduled\_departure, departure\_airport FROM T1**

**WHERE rank\_departure = 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 AS f**

**JOIN TICKET\_FLIGHTS AS tf ON f.flight\_id = tf.flight\_id**

**JOIN TICKETS t ON tf.ticket\_no = t.ticket\_no**

**WHERE f.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 T1 As (Select flight\_id, flight\_no AS flight\_number, scheduled\_departure, departure\_airport,**

**ROW\_NUMBER() Over (Partition By DATE(scheduled\_departure), departure\_airport Order By scheduled\_departure) AS rn**

**From Flights**

**Where status = 'Cancelled')**

**Select flight\_id, flight\_number, scheduled\_departure, departure\_airport From T1**

**Where rn = 1**

**Order By 4 ASC, 3 ASC;**

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

*Expected Output : Flight\_id*

**Answer:** **Select F.flight\_id FROM Flights AS F JOIN Aircrafts AS 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:** **Select F.flight\_no, A.range FROM Flights As F JOIN Aircrafts As A On F.aircraft\_code = A.aircraft\_code**

**Where A.range = (Select Max(range) From Aircrafts);**