**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](file:///C:\Users\dell\Downloads\•%09https:\www.skillovilla.com\playground\sql%3fexerciseId=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,**

**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**

**from boarding\_passes**

**group by 1**

**order by count (seat\_no) 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 (A.book\_date ,'Mon-yy' ) as month\_name,**

**B.passenger\_id,**

**B.passenger\_name,**

**sum(A.total\_amount) as totalamount,**

**rank() over (order by sum(A.total\_amount) desc) as rnk**

**from bookings A**

**left join tickets B**

**on A.book\_ref = B.book\_ref**

**group by 1 ,2,3)**

**select**

**month\_name,passenger\_id,passenger\_name,totalamount**

**from t1**

**where rnk = 1**

**limit 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 (A.book\_date ,'Mon-yy' ) as month\_name,**

**B.passenger\_id,**

**B.passenger\_name,**

**sum(A.total\_amount) as totalamount,**

**rank() over (order by sum(A.total\_amount) asc) as rnk**

**from bookings A**

**left join tickets B**

**on A.book\_ref = B.book\_ref**

**group by 1 ,2,3)**

**select**

**month\_name,passenger\_id,passenger\_name,totalamount**

**from t1**

**where rnk = 1**

**limit 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(tf.flight\_id) AS flight\_count**

**FROM**

**tickets t**

**JOIN**

**ticket\_flights tf ON t.ticket\_no = tf.ticket\_no**

**GROUP BY**

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

**HAVING**

**COUNT(tf.flight\_id) > 1**

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

Expected Output: just one number is required.

**Answer:** **SELECT**

**COUNT(\*) AS Tickets\_without\_boardingpass**

**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: WITH longestflight AS (**

**SELECT**

**flight\_id,**

**flight\_no AS flight\_number,**

**scheduled\_departure,**

**scheduled\_arrival,**

**departure\_airport,**

**arrival\_airport,**

**status,**

**aircraft\_code,**

**actual\_departure,**

**actual\_arrival,**

**TO\_CHAR(scheduled\_departure, 'hh24:mi:ss') AS D\_TIME,**

**TO\_CHAR(scheduled\_arrival, 'hh24:mi:ss') AS A\_time**

**FROM**

**flights**

**)**

**SELECT**

**flight\_number,**

**departure\_airport,**

**arrival\_airport,**

**aircraft\_code,**

**TO\_TIMESTAMP(A\_time, 'hh24:mi:ss') - TO\_TIMESTAMP(D\_TIME, 'hh24:mi:ss') AS flight\_duration**

**FROM**

**longestflight**

**ORDER BY flight\_duration 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,**

**TO\_CHAR(scheduled\_departure, 'HH12:MI AM') || '-' || TO\_CHAR(scheduled\_arrival, 'HH12:MI AM') AS timings**

**from FLIGHTS**

**WHERE**

**scheduled\_departure::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: SELECT**

**flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**scheduled\_arrival,**

**TO\_CHAR(scheduled\_departure, 'HH12:MI AM') || '-' || TO\_CHAR(scheduled\_arrival, 'HH12:MI AM') AS timings**

**from FLIGHTS**

**WHERE**

**scheduled\_departure::time BETWEEN '02:00:00' AND '06:00:00'**

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)**

**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 airports a**

**JOIN (**

**SELECT departure\_airport, COUNT(\*) AS departure\_count**

**FROM flights**

**GROUP BY departure\_airport**

**ORDER BY departure\_count desc**

**LIMIT 1**

**) f ON a.airport\_code = f.departure\_airport**

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 (**

**SELECT departure\_airport, COUNT(\*) AS departure\_count**

**FROM flights**

**GROUP BY departure\_airport**

**ORDER BY departure\_count asc**

**LIMIT 1**

**) f ON a.airport\_code = f.departure\_airport**

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

Expected Output : Flight Count

**Answer: SELECT COUNT(flight\_id)**

**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 distinct A.flight\_no as flight\_number,**

**B.aircraft\_code,**

**B.range**

**from aircrafts B**

**join flights A**

**on B.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)**

**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)**

**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)**

**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 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**

**A.flight\_id,**

**B.model as aircraft\_model**

**from flights A**

**join aircrafts B**

**on A.aircraft\_code = B.aircraft\_code**

**where B.model like '%Airbus%' and (A.status = 'Cancelled' or A.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**

**A.flight\_id,**

**B.model as aircraft\_model**

**from flights A**

**join aircrafts B**

**on A.aircraft\_code = B.aircraft\_code**

**where B.model like '%Boeing%' and (A.status = 'Cancelled' or A.status = 'Delayed')**

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

Expected Output : Airport\_name

**Answer: SELECT**

**A.airport\_name**

**from airports A**

**join flights B**

**on A.airport\_code = B.arrival\_airport**

**where B.status = 'Cancelled'**

**group by 1**

**order by count(B.flight\_id) desc**

**limit 1**

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

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

**Answer: SELECT**

**A.flight\_id,**

**B.model as aircraft\_model**

**from flights A**

**join aircrafts B**

**on A.aircraft\_code = B.aircraft\_code**

**where B.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 lastFlights as (SELECT**

**Flight\_id,**

**flight\_no as flight\_number,**

**scheduled\_departure,**

**departure\_airport,**

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

**from flights )**

**select Flight\_id,flight\_number,scheduled\_departure,departure\_airport**

**from lastFlights**

**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,**

**SUM(tf.amount) AS total\_refund**

**FROM**

**ticket\_flights tf**

**JOIN**

**tickets t ON tf.ticket\_no = t.ticket\_no**

**JOIN**

**flights f ON tf.flight\_id = f.flight\_id**

**WHERE**

**f.status = 'Cancelled'**

**GROUP BY**

**t.passenger\_name**

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

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

**Answer:** **WITH FirstCancelledFlights 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 asc) as rnk**

**from flights**

**where status = 'Cancelled')**

**select Flight\_id,flight\_number,scheduled\_departure,departure\_airport**

**from FirstCancelledFlights**

**where rnk = 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: SELECT**

**F.flight\_id ,**

**A.range**

**FROM FLIGHTS F**

**JOIN AIRCRAFTS A**

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

**where A.range = (select Max(range) from AIRCRAFTS)**