**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') 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**

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

**b.seat\_no AS seat\_number,**

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

**FROM tickets t**

**JOIN boarding\_passes b**

**ON t.ticket\_no=b.ticket\_no**

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(seat\_no) as total\_times\_allocated,**

**dense\_rank() over(order by count(seat\_no)) as drank**

**from boarding\_passes**

**group by 1 )**

**select seat\_no,total\_times\_allocated**

**FROM t1**

**WHERE drank=1**

**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(book\_date,'mmm-yy') AS Month\_name,**

**passenger\_id, passenger\_name,sum(total\_amount) AS total\_amount**

**FROM tickets t**

**JOIN bookings b**

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

**GROUP BY 1,2,3),**

**t2 AS**

**(**

**SELECT \*,**

**DENSE\_RANK() OVER(PARTITION BY Month\_name ORDER BY total\_amount DESC) AS drnk**

**FROM t1**

**)**

**SELECT**

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

**FROM t2**

**WHERE drnk=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(book\_date,'mmm-yy') AS Month\_name,**

**passenger\_id, passenger\_name,sum(total\_amount) AS total\_amount**

**FROM tickets t**

**JOIN bookings b**

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

**GROUP BY 1,2,3),**

**t2 AS**

**(**

**SELECT \*,**

**DENSE\_RANK() OVER(PARTITION BY Month\_name ORDER BY total\_amount ASC) AS drnk**

**FROM t1**

**)**

**SELECT**

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

**FROM t2**

**WHERE drnk=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 AS ticket\_number,**

**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\_boarding\_passes**

**FROM tickets t**

**LEFT JOIN boarding\_passes bp**

**ON t.ticket\_no=bp.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: WITH longest\_flight AS**

**(SELECT**

**Flight\_no, departure\_airport, arrival\_airport, aircraft\_code,**

**(scheduled\_arrival-scheduled\_departure) AS durations,**

**RANK() OVER(ORDER BY (scheduled\_arrival-scheduled\_departure) DESC) AS rnk**

**FROM flights**

**GROUP BY 1,2,3,4,5)**

**SELECT**

**Flight\_no, departure\_airport, arrival\_airport, aircraft\_code,**

**durations**

**FROM longest\_flight**

**WHERE rnk=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,**

**'Morning' 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:SS') as time,'Early Morning' as timings,**

**ROW\_NUMBER()OVER(PARTITION BY departure\_airport ORDER BY to\_char(scheduled\_departure,'HH24:MI:SS') ASC) AS rnk**

**FROM flights**

**)**

**SELECT**

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

**timings**

**FROM t1**

**WHERE rnk=1 AND**

**EXTRACT(HOUR FROM scheduled\_departure) BETWEEN 2 AND 5**

**OR (EXTRACT(HOUR FROM scheduled\_departure) = 6 AND**

**EXTRACT(MINUTE FROM scheduled\_departure) = 0)**

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) seat\_count**

**FROM seats s**

**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: WITH DepartureFlightsCount AS (**

**SELECT**

**departure\_airport,**

**COUNT(\*) AS departure\_flights\_count**

**FROM flights**

**GROUP BY**

**departure\_airport**

**ORDER BY**

**COUNT(\*) DESC**

**LIMIT 1**

**)**

**SELECT**

**a.airport\_name**

**FROM**

**airports a**

**JOIN**

**DepartureFlightsCount d**

**ON a.airport\_code = d.departure\_airport**

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

Expected Output : Airport\_name

**Answer: WITH DepartureFlightsCount AS (**

**SELECT**

**departure\_airport,**

**RANK() OVER( ORDER BY COUNT(scheduled\_departure)ASC) AS rnk**

**FROM flights**

**GROUP BY 1**

**)**

**SELECT**

**a.airport\_name**

**FROM**

**airports a**

**JOIN**

**DepartureFlightsCount d**

**ON a.airport\_code = d.departure\_airport**

**WHERE rnk=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,a.aircraft\_code,**

**a.range**

**FROM aircrafts a**

**JOIN flights f**

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

**WHERE a.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='NOZ' OR departure\_airport='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(\*) AS count\_of\_flights**

**FROM flights**

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

**GROUP BY departure\_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: SELECT**

**f.Flight\_no,a.aircraft\_code,**

**a.range,departure\_airport**

**FROM flights f**

**JOIN aircrafts a**

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

**Flight\_id,a.model AS aircraft\_model**

**FROM aircrafts a**

**JOIN flights f**

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

**Flight\_id,a.model AS aircraft\_model**

**FROM aircrafts a**

**JOIN flights f**

**ON a.aircraft\_code=f.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 t1 AS**

**(SELECT a.airport\_name,**

**count(status),**

**Dense\_rank() over ( order by count(status) desc) as rank**

**FROM airports a**

**JOIN flights f ON a.airport\_code = f.arrival\_airport**

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

**GROUP BY a.airport\_name**

**ORDER BY 2 desc)**

**SELECT**

**airport\_name**

**FROM t1**

**WHERE rank=1**

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

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

**Answer: SELECT**

**Flight\_id,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 last\_flight AS (**

**SELECT**

**Flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**departure\_airport,**

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

**FROM**

**flights**

**)**

**SELECT**

**Flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**departure\_airport**

**FROM**

**last\_flight**

**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(b.total\_amount) AS total\_refund**

**FROM tickets t**

**JOIN bookings b**

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

**JOIN BOARDING\_PASSES bp**

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

**JOIN flights f**

**ON f.flight\_id=bp.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: SELECT flight\_id,flight\_no,scheduled\_departure,departure\_airport FROM (**

**SELECT**

**to\_char(scheduled\_departure,'yyyy-mm-dd') as date,**

**departure\_airport,**

**arrival\_airport,**

**flight\_id,**

**flight\_no,scheduled\_departure,scheduled\_arrival,status,**

**DENSE\_RANK() OVER(PARTITION BY  to\_char(scheduled\_departure,'yyyy-mm-dd'),**

**arrival\_airport**

**ORDER BY to\_char(scheduled\_departure,'HH24:MI') ) as rnk**

**FROM flights**

**WHERE status in ('Cancelled')**

**ORDER BY  1,7 desc) as t1**

**WHERE rnk=1**

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

*Expected Output : Flight\_id*

**Answer: SELECT**

**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 rank AS (**

**SELECT**

**Flight\_no,range,**

**DENSE\_RANK() OVER(ORDER BY range DESC) AS drnk**

**FROM flights f**

**JOIN aircrafts a**

**ON f.aircraft\_code=a.aircraft\_code)**

**SELECT Flight\_no,range**

**FROM rank**

**WHERE drnk=1**