**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-**

* ***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**

* **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**

**bp.ticket\_no,**

**bp.boarding\_no,**

**bp.seat\_no,**

**t.passenger\_id,**

**t.passenger\_name**

**FROM BOARDING\_PASSESS bp**

**JOIN TICKETS t**

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

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

**Answer: SELECT**

**seat\_no,**

**Count(\*) as allocation\_count**

**FROM BOARDING\_PASSES**

**GROUP BY seat\_no**

**ORDER BY allocation\_count ASC**

**LIMIT 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 monthly\_payments as (**

**SELECT**

**TO\_CHAR(b.book\_date, 'Mon-YY') as month\_name,**

**t.passenger\_id,**

**t.passenger\_name,**

**SUM(tf.amount) as total\_amount**

**FROM TICKETS t**

**JOIN TICKET\_FLIGHTS tf**

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

**JOIN BOOKINGS b**

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

**GROUP BY 1,2,3**

**)**

**SELECT**

**month\_name,**

**passenger\_id,**

**passenger\_name,**

**total\_amount**

**FROM (**

**SELECT**

**month\_name,**

**passenger\_id,**

**passenger\_name,**

**total\_amount,**

**RANK() OVER(PARTITION BY month\_name ORDER BY total\_amount DESC) as rank**

**FROM monthly\_payments**

**) as ranked**

**where rank = 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 monthly\_payments as (**

**SELECT**

**TO\_CHAR(b.book\_date, 'Mon-YY') as month\_name,**

**t.passenger\_id,**

**t.passenger\_name,**

**SUM(tf.amount) as total\_amount**

**FROM TICKETS t**

**JOIN TICKET\_FLIGHTS tf**

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

**JOIN BOOKINGS b**

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

**GROUP BY 1,2,3**

**)**

**SELECT**

**month\_name,**

**passenger\_id,**

**passenger\_name,**

**total\_amount**

**FROM (**

**SELECT**

**month\_name,**

**passenger\_id,**

**passenger\_name,**

**total\_amount,**

**RANK() OVER(PARTITION BY month\_name ORDER BY total\_amount ASC) as rank**

**FROM monthly\_payments**

**) as ranked**

**where rank = 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(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**

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

Expected Output: just one number is required.

**Answer:SELECT**

**COUNT (t.ticket\_no) 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**

* **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,**

**AGE(scheduled\_arrival,scheduled\_departure) as duration**

**FROM FLIGHTS**

**ORDER BY duration DESC**

**LIMIT 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, 'HH:MI AM') AS timings**

**FROM FLIGHTS**

**WHERE EXTRACT(HOUR FROM scheduled\_departure)>= 6**

**AND EXTRACT(HOUR FROM scheduled\_departure) < 11**

* **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 early\_morning\_flights as (**

**SELECT flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**scheduled\_arrival,**

**departure\_airport,**

**TO\_CHAR(scheduled\_departure, 'HH:MI AM') AS timings**

**FROM FLIGHTS**

**WHERE EXTRACT (HOUR FROM scheduled\_departure) >= 2**

**AND EXTRACT(HOUR FROM scheduled\_departure) < 6**

**)**

**SELECT**

**flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**scheduled\_arrival,**

**departure\_airport,**

**timings**

**FROM(**

**SELECT flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**scheduled\_arrival,**

**departure\_airport,**

**timings,**

**ROW\_NUMBER() OVER(PARTITION BY departure\_airport ORDER BY scheduled\_departure) AS rn**

**from early\_morning\_flights**

**) as earliest\_fligts**

**where rn = 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'**

* **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 aircraft\_code, fare\_conditions**

* **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\_count**

**FROM SEATS**

**WHERE fare\_conditions = 'Business'**

* **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 a.airport\_name**

**ORDER BY COUNT(f.flight\_id) DESC**

**LIMIT 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 a.airport\_name**

**ORDER BY COUNT(f.flight\_id) ASC**

**LIMIT 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**

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

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

**Answer:SELECT**

**f.flight\_no,**

**f.aircraft\_code,**

**a.range as ranges**

**FROM FLIGHTS f**

**JOIN AIRCRAFTS A**

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

**WHERE A.range BETWEEN 3000 AND 6000**

* **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')**

* **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')**

* **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 flight\_count**

**FROM FLIGHTS**

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

**GROUP BY departure\_airport**

* **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 f.departure\_airport= 'DME'**

**AND a.range between 3000 and 6000**

* **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 = 'Scheduled'**

**OR (f.status = 'Arrived' and f.actual\_departure>f.scheduled\_departure)**

* **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 = 'Scheduled'**

**OR (f.status = 'Arrived' and f.actual\_departure>f.scheduled\_departure)**

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

Expected Output : Airport\_name

**Answer:SELECT**

**a.airport\_name**

**FROM FLIGHTS f**

**JOIN AIRPORTS a**

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

**where f.status = 'Scheduled'**

**GROUP BY a.airport\_name**

**order by count(f.flight\_id) DESC**

**LIMIT 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%'**

* ***Identify date-wise last flight id flying from every airport?***

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

**Answer:WITH Last\_Flights as (**

**SELECT**

**flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**departure\_airport,**

**ROW\_NUMBER() OVER(PARTITION BY departure\_airport, DATE(scheduled\_departure)ORDER BY scheduled\_departure DESC) AS rn**

**FROM Flights**

**)**

**SELECT flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**departure\_airport**

**FROM Last\_Flights**

**where rn = 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 = 'Scheduled'**

**GROUP BY t.passenger\_name**

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

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

**Answer: WITH CanceledFlights 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**

**) AS rn**

**FROM FLIGHTS f**

**where f.status = 'Scheduled'**

**)**

**SELECT**

**flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**departure\_airport**

**FROM CanceledFlights**

**WHERE rn = 1**

**order by departure\_airport, scheduled\_departure**

* ***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 F.status = 'Scheduled' AND A.model like 'Airbus%'**

* ***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)**