**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**

**t.ticket\_no,**

**boarding\_no,**

**seat\_no,**

**passenger\_id,**

**passenger\_name**

**from**

**tickets t join boarding\_passes bp on**

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

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

**Answer: with least\_assigned\_seat as(**

**SELECT seat\_no,**

**rank() over(order by count(seat\_no) asc) as leaset\_rnk**

**FROM boarding\_passes**

**GROUP BY seat\_no)**

**select seat\_no from least\_assigned\_seat where leaset\_rnk =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 table1 as(**

**select**

**passenger\_id,**

**passenger\_name,**

**to\_char(scheduled\_departure,'mon-yy') as month\_name,**

**status,**

**sum(amount) as total\_amount**

**from**

**tickets t join ticket\_flights tf on**

**t.ticket\_no=tf.ticket\_no join flights f on**

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

**where status<>'Cancelled'**

**group by 1,2,3,4**

**order by 4 desc),**

**table2 as(**

**select \*,rank() over(partition by month\_name order by total\_amount desc) as rnk from table1**

**)**

**select month\_name, passenger\_id,passenger\_name,total\_amount from table2 where rnk = 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 table1 as(**

**select**

**passenger\_id,**

**passenger\_name,**

**to\_char(scheduled\_departure,'mon-yy') as month\_name,**

**status,**

**sum(amount) as total\_amount**

**from**

**tickets t join ticket\_flights tf on**

**t.ticket\_no=tf.ticket\_no join flights f on**

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

**where status<>'Cancelled'**

**group by 1,2,3,4**

**order by 4 desc),**

**table2 as(**

**select \*,rank() over(partition by month\_name order by total\_amount asc) as rnk from table1**

**)**

**select month\_name, passenger\_id,passenger\_name,total\_amount from table2 where rnk = 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:** **with travel\_detail as(**

**select**

**passenger\_id,**

**passenger\_name,**

**t.ticket\_no,**

**count(f.flight\_id) as flight\_count**

**from**

**tickets t join ticket\_flights tf on**

**t.ticket\_no=tf.ticket\_no join flights f on**

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

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

**select \* from travel\_detail where flight\_count > 1**

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\_pass**

**FROM tickets t**

**LEFT JOIN boarding\_passes 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:** **with highest\_duration\_flight as(**

**SELECT**

**flight\_no AS Flight\_Number,**

**departure\_airport AS Departure\_Airport,**

**arrival\_airport AS Arrival\_Airport,**

**aircraft\_code AS Aircraft\_Code,**

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

**rank() over(order by scheduled\_arrival - scheduled\_departure desc) as rnk**

**FROM flights**

**)**

**select Flight\_Number,Departure\_Airport,Arrival\_Airport,Aircraft\_Code, durations**

**from highest\_duration\_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 ,**

**cast(scheduled\_departure as time) as timmings**

**FROM flights**

**WHERE**

**extract(HOUR from scheduled\_departure) >= 6 AND extract(HOUR from scheduled\_departure) < 11**

**ORDER BY scheduled\_departure;**

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 ,**

**departure\_airport,**

**cast(scheduled\_departure as time) as timming**

**FROM flights**

**WHERE**

**extract(HOUR from scheduled\_departure) >= 2 AND extract(HOUR from scheduled\_departure) < 6**

**ORDER BY scheduled\_departure;**

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**

**f.aircraft\_code,**

**fare\_conditions,**

**count(seat\_no) as seat\_count**

**from**

**flights f join seats s on**

**f.aircraft\_code=s.aircraft\_code**

**group by 1,2**

**order by 1**

1. **How many aircrafts codes have at least one Business class seats?**

Expected Output : Count of aircraft codes

**Answer:** **select**

**count(f.aircraft\_code)**

**from**

**flights f join seats s on**

**f.aircraft\_code=s.aircraft\_code**

**where fare\_conditions='Business'**

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

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

Expected Output : Airport\_name

**Answer:** **select**

**Airport\_name**

**from**

**flights f join airports a on**

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

**group by 1**

**order by count(scheduled\_departure) desc**

**limit 1**

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

Expected Output : Airport\_name

**Answer:** **select**

**Airport\_name**

**from**

**flights f join airports a on**

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

**group by 1**

**order by count(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**

**flight\_no as Flight\_Number,**

**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**

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(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(\*) AS FlightCount**

**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,**

**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)**

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');**

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:** **SELECT a.airport\_name**

**FROM airports a**

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

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

**GROUP BY a.airport\_name**

**ORDER BY COUNT(\*) DESC**

**LIMIT 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 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 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 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 AS Passenger\_name, SUM(tf.amount) AS total\_refund**

**FROM tickets t**

**JOIN ticket\_flights tf ON t.ticket\_no = tf.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 CancelledFlights AS (**

**SELECT**

**f.flight\_id,**

**f.flight\_no,**

**f.scheduled\_departure,**

**f.departure\_airport,**

**ROW\_NUMBER() OVER (PARTITION BY f.departure\_airport ORDER BY f.scheduled\_departure) AS row\_num**

**FROM**

**flights f**

**WHERE**

**f.status = 'Cancelled'**

**)**

**SELECT**

**cf.flight\_id,**

**cf.flight\_no,**

**cf.scheduled\_departure,**

**cf.departure\_airport**

**FROM**

**CancelledFlights cf**

**WHERE**

**cf.row\_num = 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 status ='Cancelled' and model like '%Airbus%'**

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

*Expected Output : Flight\_no, range*

**Answerwith highest\_range\_flight as(**

**select**

**flight\_no,**

**range,**

**rank() over(order by range desc) as rnk**

**from**

**flights f join aircrafts a on**

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

**order by 2 asc)**

**select flight\_no,range from highest\_range\_flight where rnk=1**