**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') 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 t.ticket\_no, boarding\_no, seat\_no, passenger\_id, passenger\_name**

**From boarding\_passes p inner Join tickets t on p.ticket\_no=t.ticket\_no**

**inner Join ticket\_Flights f on t.ticket\_no = f.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(\*)**

**From boarding\_passes**

**Group by 1**

**Order by 2 asc**

**limit 1)**

**Select seat\_no**

**From t1 ;**

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

**row\_number() over (partition by To\_Char(book\_date, 'mmm-yy') Order by sum(total\_amount) Desc) as rank**

**From bookings b Join tickets t on b.book\_ref = t.book\_ref**

**Group by 1,2,3)**

**Select month,passenger\_id,passenger\_name,total**

**From t1**

**Where rank =1 ;**

**Note:** **(Here I used Row\_Number() function because more than 1 passenger were high paying but Can use rank() to get more than 1 passenger in Month but question is highest paying person so 1 person only come)**

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

**row\_number() over (partition by To\_Char(book\_date, 'mmm-yy') Order by sum(total\_amount) asc) as rank**

**From bookings b Join tickets t on b.book\_ref = t.book\_ref**

**Group by 1,2,3)**

**Select month,passenger\_id,passenger\_name,total**

**From t1**

**Where rank =1 ;**

**Note:** **(Here I used Row\_Number() function because more than 1 passenger were low paying but Can use rank() to get more than 1 passenger in Month but question is least paying person so 1 person only come)**

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 passenger\_id, passenger\_name, t.ticket\_no, Count(flight\_id) as flight\_Count**

**From boarding\_passes p Join tickets t on p.ticket\_no=t.ticket\_no**

**Group by 1,2,3**

**Having Count(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 tickets\_without\_boarding\_passes**

**From tickets t LEFT Join boarding\_passes p on t.ticket\_no =p.ticket\_no**

**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:**

**Select flight\_no, departure\_airport, arrival\_airport, aircraft\_code, (actual\_arrival-actual\_departure) as duration**

**From Flights**

**Where (actual\_arrival-actual\_departure) is not Null**

**Order by 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, 'HH24:MI:SS') as tiMings**

**From Flights**

**Where Extract(HOUR From scheduled\_departure) Between 6 and 10;**

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 earliest\_Flights as**

**(Select departure\_airport, Min(scheduled\_departure) as earliest\_departure**

**From Flights**

**Where Extract(HOUR From scheduled\_departure) Between 0 and 11 -- Morning Flights**

**Group by departure\_airport)**

**Select f.flight\_id, f.flight\_no, f.scheduled\_departure,f.scheduled\_arrival, f.departure\_airport,(To\_Char(scheduled\_departure, 'HH24:MI:SS')) as tiMings**

**From Flights f Join earliest\_Flights**

**on f.departure\_airport = earliest\_Flights.departure\_airport and f.scheduled\_departure = earliest\_Flights.earliest\_departure**

**Order by 6 ;**

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)**

**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 airport\_name**

**From airports a inner Join Flights f on a.airport\_code = f.departure\_airport**

**Group by 1**

**Order by Count(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 airport\_name**

**From airports a inner Join Flights f on a.airport\_code = f.departure\_airport**

**Group by 1**

**Order by Count(flight\_id) asc**

**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 flight\_no,a.aircraft\_code, range**

**From Flights f inner Join aircrafts a 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(distinct 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(\*) as flight\_Count**

**From Flights**

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

**Group by departure\_airport**

**order by 2 desc;**

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 flight\_no, F.aircraft\_code, range, departure\_airport**

**From Flights F INNER 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 f.flight\_id,model**

**From Flights f Join aircrafts a on f.aircraft\_code = a.aircraft\_code -- Flights without actual departure (cancelled or delayed)**

**Where a.model like '%Airbus%' and actual\_departure is Null**

**order by 1 asc;**

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 -- Flights without actual departure (cancelled)**

**Where model LIKE '%Boeing%' and f.actual\_departure is Null**

**order by 1 asc ;**

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.actual\_departure IS Null -- Flights without actual departure (cancelled)**

**Group by a.airport\_name**

**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 f**

**Join aircrafts a on f.aircraft\_code = a.aircraft\_code**

**Where a.model like '%Airbus%'**

**order by 1 asc;**

1. ***Identify date-wise last flight id flying From every airport?***

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

**Answer:**

**with sub as**

**(Select departure\_airport, DATE(scheduled\_departure) as flight\_date, Max(scheduled\_departure) as last\_departure**

**From Flights**

**Group by departure\_airport, DATE(scheduled\_departure))**

**Select f.flight\_id, f.flight\_no, f.scheduled\_departure, f.departure\_airport**

**From Flights f Join sub on f.departure\_airport = sub.departure\_airport**

**and DATE(f.scheduled\_departure) = sub.flight\_date**

**and f.scheduled\_departure = sub.last\_departure;**

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 passenger\_name, SUM(b.total\_amount) as total\_refund**

**From tickets t Join bookings b on t.book\_ref = b.book\_ref**

**Join ticket\_Flights tf on t.ticket\_no = tf.ticket\_no**

**Join Flights f on tf.flight\_id = f.flight\_id -- Flights without actual departure (cancelled)**

**Where f.actual\_departure is Null**

**Group by passenger\_name**

**Order by 1 asc;**

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

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

**Answer:**

**with sub as**

**(Select departure\_airport, DATE(scheduled\_departure) AS flight\_date, MIN(scheduled\_departure) AS first\_departure**

**From flights**

**where actual\_departure is null**

**Group by departure\_airport, DATE(scheduled\_departure))**

**Select f.flight\_id, f.flight\_no, f.scheduled\_departure, f.departure\_airport**

**From flights f JOIN sub ON**

**f.departure\_airport = sub.departure\_airport AND DATE(f.scheduled\_departure) = sub.flight\_date AND f.scheduled\_departure = sub.first\_departure**

**where actual\_departure is null**

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 -- Flights without actual departure (cancelled)**

**Where a.model like '%Airbus%' and actual\_departure is Null;**

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

*Expected Output : Flight\_no, range*

**Answer:**

**Select flight\_no, Max(range) as highest\_range**

**From Flights F inner Join Aircrafts A on F.aircraft\_code=A.aircraft\_code**

**Group by 1;**