**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') 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 p.ticket\_no,boarding\_no,seat\_no as seat\_number,passenger\_id,passenger\_name**

**from boarding\_passes p**

**join tickets t**

**on p.ticket\_no = t.ticket\_no**

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

**Answer:**

**select s.seat\_no**

**from seats s**

**join boarding\_passes p**

**on s.seat\_no=p.seat\_no**

**group by 1**

**order by count(p.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 tb1 as**

**(**

**select to\_char(scheduled\_departure,'Mon-yy') Month\_name,passenger\_id,passenger\_name,sum(amount) total\_amount**

**from flights f**

**join ticket\_flights tf**

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

**join tickets t**

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

**group by 1,2,3**

**),**

**tb2 as (**

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

**from tb1**

**)**

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

**from tb2**

**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 tb1 as**

**(**

**select to\_char(scheduled\_departure,'Mon-yy') Month\_name,passenger\_id,passenger\_name,sum(amount) total\_amount**

**from flights f**

**join ticket\_flights tf**

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

**join tickets t**

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

**group by 1,2,3**

**),**

**tb2 as (**

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

**from tb1 )**

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

**from tb2**

**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:**

**select passenger\_id,passenger\_name,t.ticket\_no,count(flight\_id) as flight\_count**

**from tickets t**

**join  ticket\_flights f**

**on**

**t.ticket\_no= f.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)**

**from tickets t**

**left join boarding\_passes b**

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

**where b.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 t1 as (select flight\_no,departure\_airport,arrival\_airport,aircraft\_code,(scheduled\_arrival-scheduled\_departure) as duration,**

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

**from flights )**

**select flight\_no,departure\_airport,arrival\_airport,aircraft\_code,duration**

**from t1**

**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:**

**with t1 as (select flight\_id,flight\_no,scheduled\_departure,scheduled\_arrival,**

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

**from flights )**

**select \***

**from t1**

**where extract(hour from timmings) between 6 and 11**

**order by 5 asc**

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,**

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

**from flights )**

**select \***

**from t1**

**where extract(hour from timmings) between 2 and 6**

**order by 6 asc**

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 total\_seat**

**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(aircraft\_code) count\_of\_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**

**join flights f**

**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 airports a**

**join flights f**

**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(departure\_airport)**

**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,F.AIRCRAFT\_CODE,RANGE**

**FROM AIRCRAFTS A**

**JOIN FLIGHTS F**

**ON**

**A.AIRCRAFT\_CODE=F.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,RANGE,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 FLIGHT\_ID,MODEL AS AIRCRAFT\_MODEL**

**FROM FLIGHTS F**

**JOIN AIRCRAFTS A**

**ON F.AIRCRAFT\_CODE = A.AIRCRAFT\_CODE**

**WHERE MODEL LIKE '%Airbus%' AND STATUS IN ('Cancelled','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,MODEL AS AIRCRAFT\_MODEL**

**FROM FLIGHTS F**

**JOIN AIRCRAFTS A**

**ON F.AIRCRAFT\_CODE = A.AIRCRAFT\_CODE**

**WHERE MODEL LIKE '%Boeing%' AND STATUS IN ('Cancelled','Delayed')**

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

Expected Output : Airport\_name

**Answer:**

**select airport\_name**

**from airports a**

**join flights f**

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

**where status = 'Cancelled'**

**group by 1**

**order by count(scheduled\_arrival) 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 tb1 as (select flight\_id,flight\_no,scheduled\_departure,departure\_airport,**

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

**from flights )**

**select flight\_id,flight\_no as flight\_number,scheduled\_departure,departure\_airport**

**from tb1**

**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(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**

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

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

**Answer:**

**with tb1 as (select flight\_id,flight\_no,scheduled\_departure,departure\_airport,**

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

**from flights**

**where status = 'Cancelled')**

**select flight\_id,flight\_no as flight\_number,scheduled\_departure,departure\_airport**

**from tb1**

**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 MODEL LIKE '%Airbus%' AND STATUS = 'Cancelled'**

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

*Expected Output : Flight\_no, range*

**Answer:**

**with tb1 as**

**(SELECT FLIGHT\_ID,range,rank() over (order by range desc) as rnk**

**FROM FLIGHTS F**

**JOIN AIRCRAFTS A**

**ON F.AIRCRAFT\_CODE=A.AIRCRAFT\_CODE)**

**SELECT FLIGHT\_ID,RANGE**

**FROM tb1**

**WHERE rnk=1**