**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 formatted\_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 bp.ticket\_no, boarding\_no, seat\_no, passenger\_id, passenger\_name**

**FROM boarding\_Passes bp**

**JOIN Tickets t**

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

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

**Answer:**

**select seat\_no**

**from boarding\_passes**

**group by seat\_no**

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

**order by count(Seat\_no) asc**

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, 'mon-yy') as Month\_name ,passenger\_id, passenger\_name, sum (total\_amount) as total\_amount**

**FROM Bookings b**

**JOIN Tickets t**

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

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

**T2 as (**

**Select \*, RANK() OVER (PARTITION BY month\_name ORDER BY total\_amount DESC) AS payment\_rank**

**FROM T1 )**

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

**FROM T2**

**WHERE payment\_rank = 1**

**Order by 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, 'mon-yy') as Month\_name ,passenger\_id, passenger\_name, sum (total\_amount) as total\_amount**

**FROM Bookings b**

**JOIN Tickets t**

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

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

**T2 as (**

**Select \*, RANK() OVER (PARTITION BY month\_name ORDER BY total\_amount asc) AS payment\_rank**

**FROM T1 )**

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

**FROM T2**

**WHERE payment\_rank = 1**

**Order by 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,**

**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;**

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.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:**

**select flight\_no, departure\_airport, arrival\_airport, aircraft\_code, scheduled\_arrival-scheduled\_departure as Durations**

**FROM Flights**

**order by Durations desc**

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 timing**

**FROM**

**flights**

**WHERE**

**CAST(scheduled\_departure AS time) BETWEEN '06:00:00' AND '11:00:00'**

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 EarlyMorningFlights AS (**

**SELECT**

**\*,**

**CAST(scheduled\_departure AS time) AS timing,**

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

**FROM**

**flights**

**WHERE**

**CAST(scheduled\_departure AS time) BETWEEN '06:00:00' AND '11:00:00'**

**)**

**SELECT**

**flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**scheduled\_arrival,**

**departure\_airport,**

**timing**

**FROM**

**EarlyMorningFlights**

**WHERE**

**row\_num = 1**

1. **Questions:** **Find list of airport codes in Europe/Moscow timezone**

Expected Output: Airport\_code.

**Answer:**

**select distinct 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 distinct(aircraft\_code),fare\_conditions, count(seat\_no)**

**from seats group by 1,2 order by 3**

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

Expected Output : Count of aircraft codes

**Answer:**

**SELECT**

**COUNT(DISTINCT aircraft\_code) AS count\_of\_aircraft\_codes**

**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**

**(**

**SELECT airport\_name, rank () OVER (order by count (actual\_departure)desc)**

**FROM airports a**

**JOIN Flights f**

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

**Group by 1**

**) as T1**

**Where rank =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**

**(**

**SELECT airport\_name, rank () OVER (order by count (scheduled\_departure)asc)**

**FROM airports a**

**JOIN Flights f**

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

**Group by 1**

**) as T1**

**Where rank =1**

1. **How many flights from ‘DME’ airport don’t have actual departure?**

Expected Output : Flight Count

**Answer:**

**select count (\*)**

**FROM Flights**

**where actual\_departure is NULL**

**AND departure\_airport = 'DME'**

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 FLIGHTS f**

**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(\*)**

**FROM (**

**SELECT flight\_id**

**FROM Flights**

**WHERE departure\_airport = 'URS' AND arrival\_airport = 'KUF'**

**UNION ALL**

**SELECT flight\_id**

**FROM Flights**

**WHERE departure\_airport = 'KUF' AND arrival\_airport = 'URS'**

**) AS combined\_flights;**

1. **Write a query to get the count of flights flying from either from NOZ or KRR?**

Expected Output : Flight count

**Answer:**

**SELECT COUNT(distinct departure\_airport) 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 distinct(departure\_airport), COUNT(\*) as flight\_count**

**FROM flights**

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

**GROUP BY 1 ORDER BY 1 ASC**

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 distinct(f.Flight\_no), a.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**

**FROM flights AS f**

**JOIN aircrafts AS 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**

**FROM**

**flights AS f**

**JOIN**

**aircrafts AS 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 AS a**

**JOIN**

**flights AS 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**

**f.flight\_id,**

**a.model**

**FROM**

**flights AS f**

**JOIN**

**aircrafts AS 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:**

**Select flight\_id,flight\_no,scheduled\_departure,departure\_airport FROM (Select \*,**

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

**FROM Flights) as T1**

**where rank = 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 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 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:**

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

**from (select \*,Rank()over(partition by departure\_airport order by scheduled\_departure )**

**from flights**

**where status='Cancelled') as time where rank = 1**

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

*Expected Output : Flight\_id*

**Answer:**

**select flight\_id**

**FROM aircrafts a**

**JOIN flights f**

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

**Where model ilike '%AirBus%'**

**AND status = 'Cancelled'**

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

*Expected Output : Flight\_no, range*

**Answer:**

**Select flight\_id, Range FROM (Select distinct Flight\_id, max(range) as RANGE,**

**Rank() over( order by max (range) DESC)**

**FROM Flights f**

**JOIN Aircrafts A**

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

**Group by 1) as T1**

**Where rank = 1**