**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](about:blank)

**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,**

**date (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,**

**bp.boarding\_no,**

**bp.seat\_no AS seat\_number,**

**t.passenger\_id,**

**t.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**

**ORDER BY**

**COUNT(\*) 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 MonthlyPayments AS (**

**SELECT**

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

**t.passenger\_id,**

**t.passenger\_name,**

**SUM(b.total\_amount) AS total\_amount**

**FROM**

**TICKETS t**

**JOIN**

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

**WHERE**

**b.book\_date IS NOT NULL**

**GROUP BY**

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

**t.passenger\_id,**

**t.passenger\_name**

**)**

**SELECT**

**month\_name,**

**passenger\_id,**

**passenger\_name,**

**total\_amount**

**FROM (**

**SELECT**

**month\_name,**

**passenger\_id,**

**passenger\_name,**

**total\_amount,**

**ROW\_NUMBER() OVER (PARTITION BY month\_name ORDER BY total\_amount desc) AS rank**

**FROM**

**MonthlyPayments**

**) ranked\_payments**

**WHERE**

**rank = 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 MonthlyPayments AS (**

**SELECT**

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

**t.passenger\_id,**

**t.passenger\_name,**

**SUM(b.total\_amount) AS total\_amount**

**FROM**

**TICKETS t**

**JOIN**

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

**WHERE**

**b.book\_date IS NOT NULL**

**GROUP BY**

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

**t.passenger\_id,**

**t.passenger\_name**

**)**

**SELECT**

**month\_name,**

**passenger\_id,**

**passenger\_name,**

**total\_amount**

**FROM (**

**SELECT**

**month\_name,**

**passenger\_id,**

**passenger\_name,**

**total\_amount,**

**ROW\_NUMBER() OVER (PARTITION BY month\_name ORDER BY total\_amount ASC) AS rank**

**FROM**

**MonthlyPayments**

**) ranked\_payments**

**WHERE**

**rank = 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 AS ticket\_number,**

**COUNT(tf.flight\_id) AS flight\_count**

**FROM**

**TICKETS t**

**JOIN**

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

**JOIN**

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

**GROUP BY**

**t.passenger\_id,**

**t.passenger\_name,**

**t.ticket\_no**

**HAVING**

**COUNT(tf.flight\_id) = 1 OR COUNT(tf.flight\_id) > 1;**

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

Expected Output: just one number is required.

**Answer:**

**SELECT COUNT(DISTINCT 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;**

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 AS flight\_number,**

**departure\_airport,**

**arrival\_airport,**

**aircraft\_code,**

**(scheduled\_arrival - scheduled\_departure) AS duration**

**FROM**

**FLIGHTS**

**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 AS flight\_number,**

**scheduled\_departure,**

**scheduled\_arrival,**

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

**FROM**

**FLIGHTS**

**WHERE**

**EXTRACT(HOUR FROM scheduled\_departure) BETWEEN 6 AND 10**

**OR (EXTRACT(HOUR FROM scheduled\_departure) = 11 AND EXTRACT(MINUTE FROM scheduled\_departure) = 0);**

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 EarliestMorningFlights AS (**

**SELECT**

**departure\_airport,**

**MIN(scheduled\_departure) AS earliest\_departure**

**FROM**

**FLIGHTS**

**WHERE**

**EXTRACT(HOUR FROM scheduled\_departure) BETWEEN 01 AND 07**

**OR (EXTRACT(HOUR FROM scheduled\_departure) = 08 AND EXTRACT(MINUTE FROM scheduled\_departure) = 0)**

**GROUP BY**

**departure\_airport)**

**SELECT**

**f.flight\_id,**

**f.flight\_no AS flight\_number,**

**f.scheduled\_departure,**

**f.scheduled\_arrival,**

**f.departure\_airport,**

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

**FROM**

**FLIGHTS f**

**JOIN**

**EarliestMorningFlights emf ON f.departure\_airport = emf.departure\_airport**

**AND f.scheduled\_departure = emf.earliest\_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**

**aircraft\_code,**

**fare\_conditions,**

**COUNT(\*) AS seat\_count**

**FROM**

**SEATS**

**GROUP BY**

**aircraft\_code,**

**fare\_conditions;**

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**

**AIRPORTS**

**WHERE**

**airport\_code IN (**

**SELECT**

**departure\_airport**

**FROM**

**FLIGHTS**

**GROUP BY**

**departure\_airport**

**ORDER BY**

**COUNT(\*) 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

WHERE

airport\_code IN (

SELECT

departure\_airport

FROM

FLIGHTS

GROUP BY

departure\_airport

ORDER BY

COUNT(\*) 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**

**f.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';

1. **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 = 'NOZ' OR departure\_airport ='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;**

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**

**a.range BETWEEN 3000 AND 6000**

**AND f.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,**

**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

FLIGHTS f

JOIN

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

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**

**AIRCRAFTS a**

**JOIN**

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

**f.flight\_id,**

**f.flight\_no AS flight\_number,**

**f.scheduled\_departure,**

**f.departure\_airport**

**FROM**

**FLIGHTS f**

**JOIN (**

**SELECT**

**departure\_airport,**

**CAST(MAX(scheduled\_departure) AS DATE) AS latest\_departure\_date,**

**MAX(scheduled\_departure) AS latest\_departure\_time**

**FROM**

**FLIGHTS**

**GROUP BY**

**departure\_airport) AS latest\_flights ON f.departure\_airport = latest\_flights.departure\_airport**

**AND CAST(f.scheduled\_departure AS DATE) = latest\_flights.latest\_departure\_date**

**AND f.scheduled\_departure = latest\_flights.latest\_departure\_time**

**ORDER BY**

**f.scheduled\_departure ASC;**

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 = '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:**

**SELECT**

**f.flight\_id,**

**f.flight\_no AS flight\_number,**

**f.scheduled\_departure,**

**f.departure\_airport**

**FROM**

**FLIGHTS f**

**JOIN (**

**SELECT**

**departure\_airport,**

**CAST(scheduled\_departure AS DATE) AS flight\_date,**

**MIN(scheduled\_departure) AS earliest\_departure**

**FROM**

**FLIGHTS**

**WHERE**

**status = 'Cancelled'**

**GROUP BY**

**departure\_airport,**

**CAST(scheduled\_departure AS DATE))**

**AS earliest\_cancelled\_flights ON f.departure\_airport = earliest\_cancelled\_flights.departure\_airport**

**AND CAST(f.scheduled\_departure AS DATE) = earliest\_cancelled\_flights.flight\_date**

**AND f.scheduled\_departure = earliest\_cancelled\_flights.earliest\_departure**

**order by scheduled\_departure asc;**

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**

**WHERE**

**a.model LIKE '%Airbus%'**

**AND f.status = 'Cancelled';**

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

*Expected Output : Flight\_no, range*

**Answer:**

**SELECT**

**f.flight\_id AS Flight\_no,**

**a.range**

**FROM**

**FLIGHTS f**

**JOIN**

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

**WHERE**

**a.range = (**

**SELECT**

**MAX(range)**

**FROM**

**AIRCRAFTS);**