**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](file:///C:\Users\HP\Downloads\•%09https:\www.skillovilla.com\playground\sql%3fexerciseId=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'),**

**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,**

**t.passenger\_id,**

**t.passenger\_name**

**from boarding\_passes AS bp**

**join tickets AS 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 (**

**SELECT seat\_no, COUNT(\*) AS allocation\_count**

**FROM boarding\_passes**

**GROUP BY seat\_no**

**) AS seat\_counts**

**WHERE allocation\_count = (**

**SELECT MIN(allocation\_count)**

**FROM (**

**SELECT COUNT(\*) AS allocation\_count**

**FROM boarding\_passes**

**GROUP BY seat\_no**

**) AS subquery**

**);**

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 bookings As b**

**join tickets As t**

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

**GROUP BY TO\_CHAR(b.book\_date, 'Mon-YY'), t.passenger\_id, t.passenger\_name**

**),**

**RankedPayments AS (**

**SELECT**

**month\_name,**

**passenger\_id,**

**passenger\_name,**

**total\_amount,**

**RANK() OVER (PARTITION BY month\_name ORDER BY total\_amount DESC) AS rank**

**FROM MonthlyPayments**

**)**

**SELECT**

**month\_name,**

**passenger\_id,**

**passenger\_name,**

**total\_amount**

**FROM RankedPayments**

**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 bookings As b**

**join tickets As t**

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

**GROUP BY TO\_CHAR(b.book\_date, 'Mon-YY'), t.passenger\_id, t.passenger\_name**

**),**

**RankedPayments AS (**

**SELECT**

**month\_name,**

**passenger\_id,**

**passenger\_name,**

**total\_amount,**

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

**FROM MonthlyPayments**

**)**

**SELECT**

**month\_name,**

**passenger\_id,**

**passenger\_name,**

**total\_amount**

**FROM RankedPayments**

**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,**

**count(distinct f.flight\_id) AS flight\_count**

**from tickets AS t**

**join boarding\_passes AS b**

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

**join flights As f**

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

**group by 1,2,3**

**having count(distinct f.flight\_id) > '1';**

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

Expected Output: just one number is required.

**Answer: SELECT COUNT(\*)**

**FROM boarding\_passes**

**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\_id,**

**departure\_airport,**

**arrival\_airport,**

**aircraft\_code,**

**TO\_CHAR(actual\_departure, 'HH24:MI:SS') AS actual\_departure,**

**TO\_CHAR(actual\_arrival,'HH24:MI:SS') AS actual\_arrival**

**FROM flights**

**ORDER BY (actual\_arrival - actual\_departure) 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') AS timings**

**FROM flights**

**WHERE EXTRACT(HOUR FROM scheduled\_departure) BETWEEN '6' AND '11';**

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,**

**TO\_CHAR(scheduled\_departure, 'HH24:MI') AS timings**

**FROM (**

**SELECT**

**flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**scheduled\_arrival,**

**departure\_airport,**

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

**FROM flights**

**WHERE EXTRACT(HOUR FROM scheduled\_departure) BETWEEN '6' AND '11'**

**) AS morning\_flights**

**WHERE rn = 1;**

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 seat\_count**

**FROM seats**

**GROUP BY aircraft\_code, fare\_conditions**

**ORDER 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 aircraft\_count**

**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**

**departure\_airport AS airport\_name**

**FROM flights**

**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**

**departure\_airport AS airport\_name**

**FROM flights**

**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(\*) 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,**

**aircraft\_code,**

**flight\_id AS ranges**

**FROM flights**

**WHERE flight\_id 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 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;**

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,**

**aircraft\_code,**

**flight\_id AS range,**

**departure\_airport**

**FROM flights**

**WHERE flight\_id 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,**

**a.model As aircraft\_model**

**FROM flights As f**

**join aircrafts AS a**

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

**WHERE  a.model LIKE '%Airbus%'**

**AND (status='Cancelled' OR 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 As f**

**join aircrafts AS a**

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

**WHERE  a.model LIKE '%Boeing%'**

**AND (status='Cancelled' OR status='Delayed');**

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

Expected Output : Airport\_name

SELECT

arrival\_airport,

COUNT(\*) AS cancelled\_flights

FROM flights

WHERE status = 'Cancelled'

GROUP BY arrival\_airport

ORDER BY cancelled\_flights 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**

**flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**departure\_airport,**

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

**FROM flights**

**) AS ranked\_flights**

**WHERE row\_num = 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(b.total\_amount) AS total\_refund**

**FROM bookings As b**

**join tickets As t**

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

**join boarding\_passes As bp**

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

**join flights As f**

**on bp.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: SELECT**

**flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**departure\_airport**

**FROM (**

**SELECT**

**flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**departure\_airport,**

**ROW\_NUMBER() OVER (PARTITION BY departure\_airport, CAST(scheduled\_departure AS DATE)**

**ORDER BY scheduled\_departure ASC) AS row\_num**

**FROM flights**

**WHERE status = 'Cancelled'**

**) AS ranked\_flights**

**WHERE row\_num = 1;**

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

*Expected Output : Flight\_id*

**Answer: SELECT**

**flight\_id**

**FROM flights As f**

**join aircrafts As 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 MaxRange AS (**

**SELECT MAX(a.range) AS max\_range**

**FROM aircrafts a**

**JOIN flights f**

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

**)**

**SELECT**

**f.flight\_no,**

**f.flight\_id AS range**

**FROM flights f**

**JOIN aircrafts a**

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

**WHERE a.range = (SELECT max\_range FROM MaxRange);**