**\*/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\maa%20sharda\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') as month,

    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

INNER 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,

   COUNT(\*)

FROM BOARDING\_PASSES

GROUP BY 1

ORDER BY 2 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 MonthlyTotals AS (

    SELECT

        TO\_CHAR(B.BOOK\_DATE, 'mmm-yy') AS Month\_Name,

        T.PASSENGER\_ID,

        T.PASSENGER\_NAME,

        SUM(B.TOTAL\_AMOUNT) AS Total\_Amount

    FROM BOOKINGS B

    INNER JOIN  TICKETS T

     ON B.BOOK\_REF = T.BOOK\_REF

    GROUP BY TO\_CHAR(B.BOOK\_DATE, 'mmm-yy'), T.PASSENGER\_ID, T.PASSENGER\_NAME

),

RankedPassengers AS (

    SELECT

        Month\_Name,

        PASSENGER\_ID,

        PASSENGER\_NAME,

        Total\_Amount,

        RANK() OVER (PARTITION BY Month\_Name ORDER BY Total\_Amount DESC) AS Rank

    FROM  MonthlyTotals

)

SELECT

    Month\_Name,

    PASSENGER\_ID,

    PASSENGER\_NAME,

    Total\_Amount

FROM RankedPassengers

WHERE  Rank = 1

ORDER BY  Month\_Name ASC;

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 MonthlyTotals AS (

    SELECT

        TO\_CHAR(B.BOOK\_DATE, 'mmm-yy') AS Month\_Name,

        T.PASSENGER\_ID,

        T.PASSENGER\_NAME,

        SUM(B.TOTAL\_AMOUNT) AS Total\_Amount

    FROM BOOKINGS B

    INNER JOIN  TICKETS T

     ON B.BOOK\_REF = T.BOOK\_REF

    GROUP BY TO\_CHAR(B.BOOK\_DATE, 'mmm-yy'), T.PASSENGER\_ID, T.PASSENGER\_NAME

),

RankedPassengers AS (

    SELECT

        Month\_Name,

        PASSENGER\_ID,

        PASSENGER\_NAME,

        Total\_Amount,

        RANK() OVER (PARTITION BY Month\_Name ORDER BY Total\_Amount ASC) AS Rank

    FROM  MonthlyTotals

)

SELECT

    Month\_Name,

    PASSENGER\_ID,

    PASSENGER\_NAME,

    Total\_Amount

FROM RankedPassengers

WHERE Rank = 1

ORDER BY Month\_Name ASC;

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

join flights f

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

group by 1,2,3

having count(tf.flight\_id)> 1 or count(tf.flight\_id) = 1

order by t.passenger\_id

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

Expected Output: just one number is required.

**Answer:** SELECT

    COUNT(\*) AS Tickets\_Without\_Boarding\_Passes

FROM TICKETS T

WHERE  T.TICKET\_NO NOT IN (SELECT BP.TICKET\_NO FROM BOARDING\_PASSES BP);

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\_DEPARTURE IS NOT NULL AND ACTUAL\_ARRIVAL 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,

extract(hour from  scheduled\_departure) 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

  f.flight\_id,

f.flight\_no,

f.scheduled\_departure,

f.scheduled\_arrival,

f.departure\_airport,

 extract(hour from f.scheduled\_departure)  as timings

from flights f

where f.scheduled\_departure in (

    select min(scheduled\_departure)

    from flights as f

    where extract(hour from scheduled\_departure)<11

    group by departure\_airport)

    order by f.departure\_airport

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) 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,

    count(\*)as flight\_count

from flights

group by 1

order by flight\_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

    departure\_airport,

    count(\*)as flight\_count

from flights

group by 1

order by flight\_count asc

limit 1

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

Expected Output : Flight Count

**Answer:** select

    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\_ID,

    F.FLIGHT\_NO,

    F.aircraft\_code,

    A.RANGE

FROM FLIGHTS F

INNER 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 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 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,

    A.aircraft\_code,

    A.range,

    F.departure\_airport

FROM FLIGHTS F

INNER 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

FROM FLIGHTS F

INNER 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

FROM FLIGHTS F

INNER JOIN AIRCRAFTS 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

**Answer:** select

    arrival\_airport,

    count(\*)as cancelled\_count

from flights

where actual\_arrival is null

group by  arrival\_airport

order by 2 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

    f.Flight\_id, f.flight\_no, f.scheduled\_departure, f.departure\_airport

from flights f

inner join(

                 select

                departure\_airport,

                max(scheduled\_departure) as last\_departure

                from flights

                group by departure\_airport ,  cast(scheduled\_departure as date)

) as last\_flights on f.scheduled\_departure = last\_flights.last\_departure

and f.departure\_airport = last\_flights.departure\_airport

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**WITH RankedFlights AS (

    SELECT

        F.Flight\_ID,

        F.Flight\_NO,

        F.Scheduled\_Departure,

        F.Departure\_Airport,

        ROW\_NUMBER() OVER (PARTITION BY CAST(F.Scheduled\_Departure AS DATE), F.Departure\_Airport ORDER BY F.Scheduled\_Departure) AS rn

    FROM  FLIGHTS F

    WHERE  F.Status = 'Cancelled'

)

SELECT

    Flight\_ID,

    Flight\_No,

    Scheduled\_Departure,

    Departure\_Airport

FROM  RankedFlights

WHERE  rn = 1

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 actual\_departure is null

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

*Expected Output : Flight\_no, range*

**Answer:** select

    F.Flight\_ID,

    F.Flight\_no,

    A.RANGE

FROM FLIGHTS F

JOIN AIRCRAFTS A

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

ORDER BY A.RANGE DESC

LIMIT 1