**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

T.ticket\_no,

BP.boarding\_no,

BP.seat\_no,

T.passenger\_id,

T.passenger\_name

FROM TICKETS T

JOIN BOARDING\_PASSES BP

ON T.ticket\_no = BP.ticket\_no

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

**Answer:** with count\_table as

( select

seat\_no,

count(\*)

from BOARDING\_PASSES

group by 1

order by 2

limit 1)

select

seat\_no

from count\_table

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 table1 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,

rank() over(partition by to\_char(B.book\_date, 'mon-yy') order by sum(B.total\_amount) desc) as rank\_col

FROM BOOKINGS B

       JOIN TICKETS T

       ON T.book\_ref = B.book\_ref

       GROUP BY 1,2,3)

       SELECT

       Month\_name,

passenger\_id,

passenger\_name,

total\_amount

from table1

where rank\_col = 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 table1 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,

    rank() over(partition by to\_char(B.book\_date, 'mon-yy')order by sum(B.total\_amount) asc) as rank\_col

       FROM BOOKINGS B

       JOIN TICKETS T

       ON T.book\_ref = B.book\_ref

       GROUP BY 1,2,3)

       SELECT

       Month\_name,

       passenger\_id,

       passenger\_name,

       total\_amount

       from table1

       where rank\_col = 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 as ticket\_number,

count(flight\_id) as flight\_count

from TICKETS T

join TICKET\_FLIGHTS TF

on TF.ticket\_no = T.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(\*) AS Number\_of\_Tickets

FROM tickets t

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,

scheduled\_departure,

scheduled\_arrival,

TO\_CHAR(scheduled\_departure, 'HH12:MI AM') as timings

from FLIGHTS

where EXTRACT(HOUR FROM scheduled\_departure) >= 6

  AND EXTRACT(HOUR FROM scheduled\_departure) < 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:** with morning\_flights as(

select

flight\_id,

flight\_no ,

scheduled\_departure,

scheduled\_arrival,

departure\_airport,

TO\_CHAR(scheduled\_departure, 'HH12:MI AM') as timings,

rank() over(partition by departure\_airport order by scheduled\_departure) as Rank\_col

from FLIGHTS

where EXTRACT(HOUR FROM scheduled\_departure) >= 6

AND EXTRACT(HOUR FROM scheduled\_departure) < 11)

select

flight\_id,

flight\_no,

scheduled\_departure,

scheduled\_arrival,

departure\_airport,

timings

from morning\_flights

where Rank\_col = 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 1,2

      order 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) 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

join FLIGHTS

on departure\_airport = airport\_code

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

join FLIGHTS

on departure\_airport = airport\_code

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(\*) 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,

F.aircraft\_code,

A.range

FROM AIRCRAFTS A

JOIN FLIGHTS F

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')

    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(\*) 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 count\_of\_flights

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,

    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 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 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 FLIGHTS F

join AIRPORTS A on A.airport\_code = F.arrival\_airport

where status = 'Cancelled'

group by 1

order by COUNT(flight\_id) 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 A.aircraft\_code = F.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 DATEWISE\_FLIGHT as (

select

flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport,

row\_number() over(partition by departure\_airport order by scheduled\_departure desc) as rank\_col

from FLIGHTS)

select

flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport

from DATEWISE\_FLIGHT

where rank\_col = 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(TF.amount) as total\_refund

from TICKETS T

join TICKET\_FLIGHTS TF on T.ticket\_no = TF.ticket\_no

join FLIGHTS F on TF.flight\_id = F.flight\_id

WHERE F.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 date wise\_first\_cancelled\_flight  as (

select

flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport,

row\_number() over(partition by departure\_airport order by scheduled\_departure) as rank\_col

from FLIGHTS

where status = 'Cancelled')

select

flight\_id,

flight\_number,

scheduled\_departure,

departure\_airport

from wise\_first\_cancelled\_flight

where rank\_col = 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:** select

F.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)