**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

bp.ticket\_no,

bp.boarding\_no,

bp.seat\_no,

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

    (Select

    seat\_no,

    count (\*) as seat\_count

    from boarding\_passes

    group by 1

    order by 1 asc

    limit 1) as seat\_no

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 highest\_paying\_month as

    (select

    to\_char(b.book\_date,'mon-yy') as month\_name,

    t.passenger\_id,

    t.passenger\_name,

    b.total\_amount,

    row\_number() over (partition by to\_char(book\_date,'Mon-yy') order by total\_amount desc) highest\_rank

    from bookings b

    join tickets t

    on b.book\_ref = t.book\_ref)

  select

  month\_name,

  passenger\_id,

  passenger\_name,

  total\_amount

  from highest\_paying\_month

  where highest\_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 lowest\_paying\_month as

    (select

    to\_char(b.book\_date,'Mon-yy') as month\_name,

    t.passenger\_id,

    t.passenger\_name,

    b.total\_amount,

    row\_number() over (partition by to\_char(book\_date,'Mon-yy') order by total\_amount asc) lowest\_rank

    from bookings b

    join tickets t

    on b.book\_ref = t.book\_ref)

  select

  month\_name,

  passenger\_id,

  passenger\_name,

  total\_amount

  from lowest\_paying\_month

  where lowest\_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 (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 (\*) 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:**

with longest\_flight as (

select

    distinct flight\_no,

    departure\_airport,

    arrival\_airport,

    aircraft\_code,

    (scheduled\_arrival-scheduled\_departure) as duration,

    rank() over(order by (scheduled\_arrival-scheduled\_departure)desc) as duration\_rank

from flights)

select

    flight\_no,

    departure\_airport,

    arrival\_airport,

    aircraft\_code,

    duration

    from longest\_flight

    where duration\_rank = 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,

    cast(scheduled\_departure as time) as timimg

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 earliest\_morning\_flight as (

select

    flight\_id,

    flight\_no,

    scheduled\_departure,

    scheduled\_arrival,

    departure\_airport,

    cast(scheduled\_departure as time) as timing,

    row\_number() over(partition by departure\_airport order by scheduled\_departure) as flight\_rank

from flights

where cast(scheduled\_departure as time) between '02:00:00' and '06:00:00')

select

    flight\_id,

    flight\_no,

    scheduled\_departure,

    scheduled\_arrival,

    departure\_airport,

    timing

    from earliest\_morning\_flight

    where flight\_rank = 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

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

Expected Output : Count of aircraft codes

**Answer:**

select

    count (distinct aircraft\_code) count\_of\_aircraftcode

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:**

With Departurecounts as (

    Select

        departure\_airport,

        COUNT(\*) AS departure\_count

    From flights

    Group by departure\_airport

    Order by departure\_count Desc

    LIMIT 1

)

select

    airport\_name

From airports a

JOIN DepartureCounts dc

ON a.airport\_code = dc.departure\_airport

1. **Find out the name of the airport having least number of scheduled departure flights**

Expected Output : Airport\_name

**Answer:**

With Departurecounts as (

    Select

        departure\_airport,

        COUNT(\*) AS departure\_count

    From flights

    Group by departure\_airport

    Order by departure\_count asc

    LIMIT 1

)

select

    airport\_name

From airports a

JOIN DepartureCounts dc

ON a.airport\_code = dc.departure\_airport

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

    distinct f.flight\_no,

    f.aircraft\_code,

    a.range

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(\*) 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(\*) 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

    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 range 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:**

With models as (

select

flight\_id,

model as aircraft\_model,

status

from flights f

inner join aircrafts a

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

where model like '%Airbus%' and status in ('Cancelled','Delayed') )

select

flight\_id,

aircraft\_model

from models

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:**

With models as (

select

flight\_id,

model as aircraft\_model,

status

from flights f

inner join aircrafts a

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

where model like '%Boeing%' and status in ('Cancelled','Delayed') )

select

flight\_id,

aircraft\_model

from models

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

Expected Output : Airport\_name

**Answer:**

with cancelled\_details as (

Select airport\_name,

count(\*) as cancelled\_flight

from flights f

Join airports a

on f.arrival\_airport=a.airport\_code

Where status='Cancelled'

Group by 1)

    Select

    airport\_name

    from cancelled\_details

    where cancelled\_flight=(

            select

            MAX(cancelled\_flight)

            from cancelled\_details)

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

inner join aircrafts a

on f.aircraft\_code = a.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 lastflight as(

select

        Flight\_id,

        Flight\_no,

        Scheduled\_departure,

        Departure\_airport,

        max(Scheduled\_departure) OVER (PARTITION BY Departure\_airport, date (Scheduled\_departure)) AS max\_Flight\_Rank

    From Flights)

    select

    Flight\_id,

        Flight\_no,

        Scheduled\_departure,

        Departure\_airport

        from lastflight

        where Scheduled\_departure = max\_Flight\_Rank

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,

tf.amount  total\_refund

from flights f

inner join ticket\_flights tf

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

inner join tickets t

on tf.ticket\_no = t.ticket\_no

where status = 'Cancelled'

1. ***Identify date wise first cancelled flight id flying for every airport?***

*Expected Output : Flight\_id,flight\_number,schedule\_departure,departure\_airport*

**Answer:**

with cancalled\_flight\_datewise as (

Select

flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport,

rank() over(partition by departure\_airport order by scheduled\_departure asc) datewise\_rank

from flights

where status = 'Cancelled')

Select

flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport

from cancalled\_flight\_datewise

where datewise\_rank= 1

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

*Expected Output : Flight\_id*

**Answer:**

Select

Flight\_id

from flights f

inner join aircrafts a

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

where status = 'Cancelled' and model like '%Airbus%'

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

*Expected Output : Flight\_no, range*

**Answer:**

with highest\_range as (

Select

flight\_id,

range

from flights f

join aircrafts a

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

Select

flight\_id,

range

from highest\_range

where range = (

    select

    max(range)

    from highest\_range

)