**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') 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, b.boarding\_no, b.seat\_no as seat\_number, t.passenger\_id, t.passenger\_name

from tickets t

join boarding\_passes b

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

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

**Answer:** select seat\_no, count(seat\_no) as seat\_count

from boarding\_passes

group by 1

having count(seat\_no)=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 t1 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

join tickets t

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

group by 1,2,3),

t2 as

(

select \*, row\_number()over(partition by Month\_name order by total\_amount desc) as rnk

from t1)

select Month\_name, passenger\_id, passenger\_name, total\_amount

from t2

where rnk=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 t1 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

join tickets t

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

group by 1,2,3),

t2 as

(

select \*, row\_number()over(partition by Month\_name order by total\_amount asc) as rnk

from t1)

select Month\_name, passenger\_id, passenger\_name, total\_amount

from t2

where rnk=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(f.flight\_id) as flight\_count

from tickets t

join ticket\_flights f

on t.ticket\_no=f.ticket\_no

group by 1,2,3

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

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

Expected Output: just one number is required.

**Answer:**  select count(t.ticket\_no) as tickets\_without\_boarding\_passes

from tickets t

left join boarding\_passes b

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

where b.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:**  with t1 as (select distinct flight\_no as flight\_number, departure\_airport, arrival\_airport, aircraft\_code, (scheduled\_arrival-scheduled\_departure) as durations

from flights),

t2 as (select \*, rank() over(order by durations desc) as rnk

from t1)

select flight\_number, departure\_airport, arrival\_airport, aircraft\_code, durations

from t2

where rnk=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 timings

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 t1 as (select flight\_id, flight\_no as flight\_number, scheduled\_departure, scheduled\_arrival, departure\_airport, cast(scheduled\_departure as time) as timings,row\_number()over(partition by departure\_airport order by scheduled\_departure asc) as rnk

from flights

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

select flight\_id, flight\_number, scheduled\_departure, scheduled\_arrival, departure\_airport, timings

from t1

where rnk=1;

1. **Questions:** **Find list of airport codes in Europe/Moscow timezone**

Expected Output: Airport\_code.

**Answer:** select airport\_code

from airports

where timezone in ('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) 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:** with t1 as (select Airport\_name, count(actual\_departure) as flight\_count

from airports a

join flights f

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

group by 1)

select Airport\_name

from t1

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:**  with t1 as (select Airport\_name, count(scheduled\_departure) as flight\_count

from airports a

join flights f

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

group by 1)

select Airport\_name

from t1

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(flight\_id) 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 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(flight\_id) 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(flight\_id) 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\_id) 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, 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 in('Cancelled','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 in('Cancelled','Delayed');

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

Expected Output : Airport\_name

with t1 as (select a.airport\_name, f.status, count(flight\_id) as flight\_count,dense\_rank()over(order by count(flight\_id) desc) as rnk

from airports a

join flights f

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

where f.status='Cancelled'

group by 1,2)

select airport\_name

from t1

where rnk=1;

1. ***Identify flight ids which are using “Airbus aircrafts”***

*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%';

1. ***Identify date-wise last flight id flying from every airport?***

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

**Answer:** with t1 as

    (select Flight\_id, flight\_no as flight\_number, scheduled\_departure as schedule\_departure, departure\_airport, row\_number() over(partition by departure\_airport order by scheduled\_departure desc) as rnk

    from flights )

    select Flight\_id, flight\_number, schedule\_departure, departure\_airport

    from t1

    where rnk=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 t1 as (select flight\_id,flight\_no as flight\_number,scheduled\_departure as schedule\_departure,departure\_airport,rank()over(partition by departure\_airport order by scheduled\_departure) as rnk

    from flights

    where status='Cancelled')

    select flight\_id, flight\_number, schedule\_departure, departure\_airport

    from t1

    where rnk=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 f.status='Cancelled';

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

*Expected Output : Flight\_no, range*

**Answer:** with t1 as (select f.flight\_no, max(a.range) as range

    from flights f

    join aircrafts a

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

    group by 1),

    t2 as

    (select \*, rank() over(order by range desc) as rnk

    from t1)

    select flight\_no, range

    from t2

    where rnk=1;