**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,

count(\*)

from boarding\_passes

group by 1

having count(\*) = 1

order by 2 asc

-- there are 3 seat numbers being least allocated

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

from bookings b

join tickets t

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

group by 1,2,3

),

 table2 as (select \*,

rank() over (partition by month\_name order by total\_amount desc ) as amount\_rnk

from table1 )

select \*

from table2

where amount\_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 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

from bookings b

join tickets t

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

group by 1,2,3

),

 table2 as (select \*,

rank() over (partition by month\_name order by total\_amount asc ) as amount\_rnk

from table1 )

select \*

from table2

where amount\_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,

 b.ticket\_no,

 count(\*) as flight\_count

 from tickets t

 join boarding\_passes b

 on t.ticket\_no = b.ticket\_no

 join flights f

 on f.flight\_id = b.flight\_id

 where f.actual\_departure is not null

  and f.actual\_arrival is not null

 group by 1,2,3

 having count(\*) > 1;

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

Expected Output: just one number is required.

**Answer:**

select count(\*) as ticket\_without\_boarding\_passes

 from tickets t

 left join boarding\_passes b

 on t.ticket\_no = b.ticket\_no

 where b.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,

 departure\_airport,

 arrival\_airport,

 aircraft\_code,

 (actual\_arrival-actual\_departure) as duration

 from flights

 where status ='Arrived'

 order by 5 desc

 limit 5

 -- there are 5 longest flights

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:**

select

 flight\_id,

 flight\_no,

 scheduled\_departure,

 scheduled\_arrival,

 departure\_airport,

 cast(scheduled\_departure as time) as timing

 from flights

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

 group by 1,5

 order by 3

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

Expected Output: Airport\_code.

**Answer:** select

airport\_code

from airports

where timezone like'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(\*) 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)

 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 table1 as

(select

departure\_airport as airport\_name,

count(\*) as num\_count

  from flights

  group by airport\_name)

  select airport\_name

  from table1

  order by num\_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 table1 as(

    select departure\_airport,

count(\*) as num\_departures

from flights

where status = 'Scheduled'

group by departure\_airport)

select departure\_airport

from table1

where num\_departures = 1

--there are 10 airports having least number of scheduled departure

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

Expected Output : Flight Count

**Answer:** select

 count(\*)

  from flights

 where status = 'Scheduled'

 and departure\_airport = 'DME'

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 flights f

  join aircrafts a

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

 where 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 flights\_count

 from flights

 where (departure\_airport = 'KUF' and

 arrival\_airport = 'URS') or

 (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,

 f.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 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 ilike '%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 f

 join aircrafts a

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

where a.model ilike '%Boeing%'

and (status = 'Cancelled' or status = 'Delayed')

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

Expected Output : Airport\_name

**Answer:** with table1 as

 (select

 count(\*) as counts,

arrival\_airport as airport\_name

from flights

where status = 'Cancelled'

group by 2)

select

 airport\_name from table1

order by counts desc

limit 2

-- there are 2 airports having equal most cancelled flights

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 ilike'%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 departure\_airport,

    max(scheduled\_departure) as max\_scheduled\_departure

    from flights

    group by departure\_airport

)

select

f.flight\_id,

f.flight\_no,

f.scheduled\_departure,

f.departure\_airport

from flights f

join LastFlight lf

on f.departure\_airport = lf.departure\_airport and

f.scheduled\_departure = lf.max\_scheduled\_departure

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 f.flight\_id = tf.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 first\_cancelled\_flight as

 (select

 flight\_id,flight\_no,scheduled\_departure,departure\_airport,

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

 as rnk

 from flights

 where status ='Cancelled' )

 select flight\_id,flight\_no,

 scheduled\_departure,departure\_airport

 from first\_cancelled\_flight

 where rnk = 1

 order by scheduled\_departure

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

*Expected Output : Flight\_id*

**Answer:** select

f.flight\_id

from flights f

left join aircrafts a

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

where f.status = 'Cancelled'  and

a.model like '%Airbus%';

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

*Expected Output : Flight\_no, range*

**Answer:** select f.flight\_id ,

max(a.range) as range

from flights f join

aircrafts a on

f.aircraft\_code = a.aircraft\_code

group by f.flight\_id

having max(a.range) = (select max(range) from aircrafts)