**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-mmm-dd') as book\_date,

 total\_amount

 from bookings

order by 3;

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

 b.ticket\_no,

 b.boarding\_no,

 b.seat\_no,

 t.passenger\_id,

 t.passenger\_name

 from boarding\_passes b

 inner join tickets t

 on b.ticket\_no = t.ticket\_no

order by 5;

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

**Answer:** select

 seat\_no

 from seats

 group by seat\_no

 order by count(\*) 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 monthly\_payment as (

    select

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

      t.passenger\_id,

      t.passenger\_name,

      sum(b.total\_amount) as total\_spent

    from bookings b

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

    group by 1,2,3

 )

    select

    mp.month\_name,

    mp.passenger\_id,

    mp.passenger\_name,

    mp.total\_spent

    from monthly\_payment mp

    join (

        select

        month\_name,

        max(total\_spent) as total\_max

        from monthly\_payment

        group by 1

        ) max\_payment on mp.month\_name=max\_payment.month\_name

                      and mp.total\_spent=max\_payment.total\_max

    order by 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 monthly\_payment as (

    select

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

      t.passenger\_id,

      t.passenger\_name,

      sum(b.total\_amount) as total\_spent

    from bookings b

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

    group by 1,2,3

 )

    select

    mp.month\_name,

    mp.passenger\_id,

    mp.passenger\_name,

    mp.total\_spent

    from monthly\_payment mp

    join (

        select

        month\_name,

        min(total\_spent) as total\_min

        from monthly\_payment

        group by 1

        ) min\_payment on mp.month\_name=min\_payment.month\_name

                      and mp.total\_spent=min\_payment.total\_min

    order by 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 --(considering =1 is nonstop journey and >1 is return journey)

order by 4 asc;

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

Expected Output: just one number is required.

**Answer:**select

count(\*) as not\_having\_boarding\_pass

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:** select

 flight\_no,

 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**   
with morning\_flight as (

    select

    flight\_id,

    flight\_no,

    scheduled\_departure,

    scheduled\_arrival,

    to\_char(scheduled\_departure,'HH12:MI AM')as departure\_time,

    to\_char(scheduled\_arrival,'HH12:MI AM')as arrival\_time

    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,

concat (departure\_time,'-',arrival\_time) as timings

from morning\_flight

order by timings

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\_flight as (

    select

    flight\_id,

    flight\_no,

    scheduled\_departure,

    scheduled\_arrival,

    departure\_airport,

    to\_char(scheduled\_departure,'HH12:MI AM')as departure\_time,

    to\_char(scheduled\_arrival,'HH12:MI AM')as arrival\_time

    from flights

    where

    extract(hour from scheduled\_departure)>=6 and

    extract(hour from scheduled\_departure) <11

    order by 6

), rank\_tble as (

    select \*,

       dense\_rank () over (partition by departure\_airport order by departure\_time asc) AS drank

    from morning\_flight

)

select

mf.flight\_id,

mf.flight\_no,

mf.scheduled\_departure,

mf.scheduled\_arrival,

mf.departure\_airport,

concat (mf.departure\_time, '-',mf.arrival\_time) as timings

from morning\_flight mf

join rank\_tble rt on mf.flight\_id=rt.flight\_id

                 and mf.flight\_no=rt.flight\_no

                 and mf.departure\_airport=rt.departure\_airport

where drank=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'

order by 1;

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

order by 1,2 desc;

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 seat\_count

from seats

where fare\_conditions='Business'

having count (distinct aircraft\_code) >=1

1. **Find out the name of the airport having maximum number of departure flight**

Expected Output : Airport\_name

**Answer:** with cte as (

 select

 a.airport\_name,

 count(f.departure\_airport) as flight\_count

 from flights f

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

 group by 1

 order by 2 desc

 )

 select airport\_name

 from cte

 limit 1;

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

Expected Output : Airport\_name

**Answer:** with cte as (

 select

 a.airport\_name,

 count(f.scheduled\_departure) as flight\_count

 from flights f

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

 group by 1

 order by 2 asc

 )

 select airport\_name

 from cte

 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

distinct f.flight\_no,

f.aircraft\_code,

a.range

from flights f

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

where a.range between 3000 and 6000

order by 3 asc;

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

order by 2;

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,

f.aircraft\_code,

a.range,

f.departure\_airport

from flights f

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

where (a.range between 3000 and 6000) and departure\_airport='DME'

order by 3;

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')

order by 1;

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 = 'Cancelled' or f.status='Delayed')

order by 1;

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

Expected Output : Airport\_name

**Answer:**select

a.airport\_name

from airports a

join flights f

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

where f.status='Cancelled'

group by a.airport\_name

order by count(\*)desc

limit 1;

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

*Expected Output : Flight\_id,aircraft\_model*

**Answer:**select

distinct f.flight\_id,

a.model aircraft\_model

from flights f

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

where a.model like '%Airbus%'

order by 1;

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

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

**Answer:**with cte as (

 select

 departure\_airport,

 to\_char(scheduled\_departure, 'yyyy-mm-dd') as day,

 max(scheduled\_departure) as schedule\_departure

 from flights

 group by 1,2

 order by 1,2

 )

 select

 f.flight\_id,

 f.flight\_no,

 c.schedule\_departure,

 f.departure\_airport

 from cte c

 join flights f on f.scheduled\_departure=c.schedule\_departure

               and f.departure\_airport=c.departure\_airport

 order by 3 desc, 4 asc;

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

left join ticket\_flights tf on t.ticket\_no=tf.ticket\_no

left 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 cte as (

 select

 departure\_airport,

 to\_char(scheduled\_departure, 'yyyy-mm-dd') as day,

 min(scheduled\_departure) as schedule\_departure

 from flights

 where status = 'Cancelled'

 group by 1,2

 order by 1,2

 )

 select

 f.flight\_id,

 f.flight\_no,

 c.schedule\_departure,

 f.departure\_airport

 from cte c

 join flights f on f.scheduled\_departure=c.schedule\_departure

               and f.departure\_airport=c.departure\_airport

 order by 3 desc, 4 asc;

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 a.aircraft\_code=f.aircraft\_code

where f.status = 'Cancelled'

     and  a.model like '%Airbus%'

order by 1;

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

*Expected Output : Flight\_no, range*

**Answer:**select

f.flight\_id,

a.range

from flights f

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

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

order by 1;