**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\mehak\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

  bp.ticket\_no,

  bp.boarding\_no,

  bp.seat\_no,

  t.passenger\_id,

  t.passenger\_name

from boarding\_passes as bp

inner join tickets as 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 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(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

)

select

mp.Month\_name,

mp.passenger\_id,

mp.passenger\_name,

mp.total\_amount

from monthly\_payment mp

join (

    select

    Month\_name,

    max(total\_amount) as max\_amount

    from monthly\_payment

    group by 1

)as max\_payment

on mp.Month\_name=max\_payment.Month\_name and mp.total\_amount=max\_payment.max\_amount

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(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

)

select

mp.Month\_name,

mp.passenger\_id,

mp.passenger\_name,

mp.total\_amount

from monthly\_payment mp

join (

    select

    Month\_name,

    min(total\_amount) as min\_amount

    from monthly\_payment

    group by 1

)as min\_payment

on mp.Month\_name=min\_payment.Month\_name and mp.total\_amount=min\_payment.min\_amount

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:** with journeycount as (

    select

      t.passenger\_id,

      t.passenger\_name,

      t.ticket\_no,

      count(distinct f.flight\_id) as flight\_count

    from tickets t

    inner join ticket\_flights tf

    on t.ticket\_no=tf.ticket\_no

    inner join flights f

    on tf.flight\_id=f.flight\_id

    group by 1,2,3

)

select

j.passenger\_id,

j.passenger\_name,

j.ticket\_no,

j.flight\_count

from journeycount j

inner join ticket\_flights tf on j.ticket\_no=tf.ticket\_no

group by 1,2,3,4

having max(flight\_count)=1 or

max(flight\_count)>1

order by 1

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

Expected Output: just one number is required.

**Answer:** select

count(\*)as tickets\_without\_boarding\_passes

from tickets

left join boarding\_passes

on tickets.ticket\_no=boarding\_passes.ticket\_no

where boarding\_passes.ticket\_no is null

**ANSWER- 251**

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,

EXTRACT(EPOCH FROM (scheduled\_arrival - scheduled\_departure)) / 60 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) <12

)

select

flight\_id,

flight\_no,

scheduled\_departure,

scheduled\_arrival,

departure\_time ||'-'||arrival\_time as timings

from morning\_flight

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,

    row\_number() over (partition by  departure\_airport order by scheduled\_departure) AS row\_num

    from flights

    where

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

    extract(hour from scheduled\_departure) <12

)

select

flight\_id,

flight\_no,

scheduled\_departure,

scheduled\_arrival,

departure\_airport,

departure\_time ||'-'||arrival\_time as timings

from morning\_flight

where row\_num=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(\*)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

select

count(DISTINCT aircraft\_code)  as count\_of\_aircraft\_codes

from seats

where fare\_conditions='Business'

| **count\_of\_aircraft\_codes** |
| --- |
| 7 |

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

Expected Output : Airport\_name

**Answer:** select

a.airport\_name

from  airports a

join flights f

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

group by a.airport\_name

order by  COUNT(\*) DESC

limit 1;

| **airport\_name** |
| --- |
| {en": "Sheremetyevo International Airport", "ru": "} |

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

Expected Output : Airport\_name

**Answer:** select

a.airport\_name

from  airports a

join flights f

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

group by a.airport\_name

order by  COUNT(\*) asc

limit 1;

| **airport\_name** |
| --- |
| {en": "Usinsk Airport", "ru": "} |

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;

| **flight\_count** |
| --- |
| 127 |

1. **Identify flight ids having range between 3000 to 6000**

Expected Output : Flight\_Number , aircraft\_code, ranges

**Answer:** SELECT

    f.flight\_no AS Flight\_Number,

    f.aircraft\_code,

    a.range

FROM flights as f

join Aircrafts as 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:** with FlightsBetween as (

    select

    count(\*)as Flight\_count

    from flights

    where departure\_airport ='URS'

    AND

    arrival\_airport='KUF'

)

select

Flight\_count

FROM FlightsBetween

| **flight\_count** |
| --- |
| 14 |

1. **Write a query to get the count of flights flying from either from NOZ or KRR?**

Expected Output : Flight count

**Answer:** with FlightsFrom as (

    select count(\*) as Flight\_count

    from flights

    where departure\_airport in ('NOZ','KRR')

)

select

Flight\_count

from FlightsFrom

| **flight\_count** |
| --- |
| 301 |

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:** with FlightsFromAirports as (

    select

    departure\_airport,

    count(\*)as flight\_count

    from flights

    where departure\_airport in ('KZN','DME','NBC','NJC','GDX','SGC','VKO','ROV')

    group by 1

)

select

departure\_airport,

flight\_count

from FlightsFromAirports

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 = '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 a.model like '%Boeing%'

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

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

Expected Output : Airport\_name

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

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 LastFlights as (

    select

    departure\_airport,

    DATE(scheduled\_departure) as departure\_date,

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

    from flights

    group by 1,2

)

select

f.flight\_id,

f.flight\_no,

f.scheduled\_departure,

f.departure\_airport

from LastFlights lf

join flights f

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

and lf.departure\_date=DATE(f.scheduled\_departure)

and lf.max\_scheduled\_departure=f.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

    tickets.passenger\_name,

    SUM(bookings.total\_amount) AS total\_refund

FROM

    tickets

JOIN

    bookings ON tickets.book\_ref = bookings.book\_ref

join

    ticket\_flights on tickets.ticket\_no=ticket\_flights.ticket\_no

where

exists(

select

flight\_id

from flights

where 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 FirstCancelledFlights as (

    select

    departure\_airport,

    DATE(scheduled\_departure) as departure\_date,

    Min (scheduled\_departure) as min\_scheduled\_departure

    from flights

    where status='Cancelled'

    group by 1,2

)

select

f.flight\_id,

f.flight\_no,

f.scheduled\_departure ,

f.departure\_airport

from FirstCancelledFlights fc

join flights f

on fc.departure\_airport=f.departure\_airport

and fc.departure\_date=DATE(f.scheduled\_departure)

and fc.min\_scheduled\_departure=f.scheduled\_departure

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:**

select

    f.flight\_id,

    a.range

from

    flights f

join

    aircrafts a ON f.aircraft\_code = a.aircraft\_code

order by

    a.range DESC