**Please answer the following questions using Airline DB database.**

**Instructionto 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 theassignment, 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')  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,

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)  allocation\_count

from

    Boarding\_passes

group by  1

order by  allocation\_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 t1 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),

t2 as

(

    SELECT

        Month\_name,

        passenger\_id,

        passenger\_name,

        total\_amount,

        ROW\_NUMBER() OVER (PARTITION BY month\_name ORDER BY total\_amount desc) AS r

    FROM

        t1

)

select

    month\_name,

    passenger\_id,

    passenger\_name,

    total\_amount

FROM t2

where

    r = 1

order by

    month\_name;

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, '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),

t2 as

(

    SELECT

        Month\_name,

        passenger\_id,

        passenger\_name,

        total\_amount,

        ROW\_NUMBER() OVER (PARTITION BY month\_name ORDER BY total\_amount asc) AS r

    FROM

        t1

)

select

    month\_name,

    passenger\_id,

    passenger\_name,

    total\_amount

FROM t2

where

    r = 1

order by

    month\_name;

1. **Identify the travel details of non stopjourneys or return journeys (having more than 1 flight).**

Expected Output: Passenger\_id, passenger\_name, ticket\_number and flight count.

**Answer:**

select  Passenger\_id, passenger\_name, t.ticket\_no,count(flight\_id) flight\_count

from TICKETS t

join TICKET\_FLIGHTS tf

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

group by 1,2,3

having count(flight\_id)>=1

order by 4 desc, 1 asc;

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

Expected Output: just one number is required.

**Answer:**

select count(distinct(t.ticket\_no))

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  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:**

select flight\_id, flight\_no, scheduled\_departure, scheduled\_arrival, extract(hour from scheduled\_departure ) timings

from flights

where extract(hour from scheduled\_departure) between 6 and 11

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, scheduled\_departure, scheduled\_arrival, departure\_airport,extract(hour from scheduled\_departure) timings

from flights),

t2 as (

    select flight\_id, flight\_no, scheduled\_departure, scheduled\_arrival, departure\_airport,extract(hour from scheduled\_departure) timings,row\_number() over(partition by departure\_airport order by scheduled\_departure asc) r

    from t1

)

select flight\_id, flight\_no, scheduled\_departure, scheduled\_arrival, departure\_airport,extract(hour from scheduled\_departure) timings

from t2

where r=1 and extract(hour from scheduled\_departure)<12;

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) seat\_count

from Seats

group by 1,2

order by 3

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

Expected Output : Count of aircraft codes

**Answer:**

select  count(distinct(Aircraft\_code))  business\_class\_aircraft\_count

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(f.flight\_id) number\_of\_departure\_flight

from airports a

join flights f

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

group by 1

),

t2 as (

    select \*,rank() over (order by number\_of\_departure\_flight desc) as r

    from t1

)

select airport\_name

from t2

where r='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(f.flight\_id) number\_of\_departure\_flight

from airports a

join flights f

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

group by 1

),

t2 as (

    select \*,rank() over (order by number\_of\_departure\_flight asc) as r

    from t1

)

select airport\_name

from t2

where r='1';

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

Expected Output : Flight Count

**Answer:**

select  count(distinct(flight\_id))

from flights

where actual\_departure is null and departure\_airport='DME'

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

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

**Answer:**

select  Flight\_No , a.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)

from flights f

join airports a

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

where airport\_code = 'URS' or airport\_code= '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(distinct(flight\_id))

from flights f

join airports a

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

where airport\_code = 'NOZ' or airport\_code= '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  count(distinct(flight\_id))

from flights f

join airports a

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

where airport\_code in ('KZN','DME','NBC','NJC','GDX','SGC','VKO','ROV')

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  Flight\_no,a.aircraft\_code,a.range as ranges,departure\_airport

from flights f

join AIRCRAFTS a

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

where a.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:**

select Flight\_id,model as aircraft\_model

from FLIGHTS f

join AIRCRAFTS a

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

where model like '%Airbus%' and 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 Flight\_id,model as aircraft\_model

from FLIGHTS f

join AIRCRAFTS a

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

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

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

Expected Output :Airport\_name

**Answer:**

with t1 as (

select Airport\_name,count(flight\_id)  cancelled\_flights\_count

from flights f

join airports a

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

where  status='Cancelled'

group by 1

order by 2 desc )

select Airport\_name

from t1

limit 1;

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

join AIRCRAFTS a

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

where 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 t1 as (

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

row\_number() over (partition by departure\_airport,Date(scheduled\_departure) order by scheduled\_departure desc)  r

from FLIGHTS )

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

from t1

where r='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 Passenger\_name,amount as total\_refund

from flights f

join TICKET\_FLIGHTS tf

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

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 t1 as (

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

row\_number() over (partition by departure\_airport,Date(scheduled\_departure) order by scheduled\_departure asc)  r

from FLIGHTS

where status = 'Canceled' )

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

from t1

where r='1';

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

*Expected Output :Flight\_id*

**Answer:**

select flight\_id

from FLIGHTS f

join AIRCRAFTS a

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

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

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

*Expected Output : Flight\_no, range*

**Answer:**

select  F.flight\_no, A.range

from Flights F

join (

    select aircraft\_code, range,

           RANK() OVER (ORDER BY range DESC) AS range\_rank

    from Aircrafts

) A on F.aircraft\_code = A.aircraft\_code

where A.range\_rank = 1;