**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

    P.ticket\_no,

    P.boarding\_no,

    P.seat\_no,

    T.passenger\_id,

    T.passenger\_name

from BOARDING\_PASSES P

join TICKETS T

on P.ticket\_no=T.ticket\_no

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

**Answer:**

with table\_1 as(

    select

        seat\_no,

        count(\*) as seat\_count

    from BOARDING\_PASSES

    group by 1

),

table\_2 as(

    select

        \*,

        rank() over(order by seat\_count) as rnk

    from table\_1)

select

    seat\_no

from table\_2

where rnk=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 table\_1 as(

    select

        to\_char(B.book\_date,'mon-yy') as month\_name,

        T.passenger\_id,

        T.passenger\_name,

        B.total\_amount,

        rank() over(partition by to\_char(B.book\_date,'mon-yy') order by total\_amount DESC) as rnk

    from BOOKINGS B

    join TICKETS T

    on T.book\_ref=B.book\_ref)

select

    month\_name,

    passenger\_id,

    passenger\_name,

    total\_amount

from table\_1

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 table\_1 as(

    select

        to\_char(B.book\_date,'mon-yy') as month\_name,

        T.passenger\_id,

        T.passenger\_name,

        B.total\_amount,

        rank() over(partition by to\_char(B.book\_date,'mon-yy') order by total\_amount ASC) as rnk

    from BOOKINGS B

    join TICKETS T

    on T.book\_ref=B.book\_ref)

select

    month\_name,

    passenger\_id,

    passenger\_name,

    total\_amount

from table\_1

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(\*) as tickets\_without\_boaring\_pass

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,

    (scheduled\_arrival-scheduled\_departure) as durations

from FLIGHTS

order by durations 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,

    case when extract(hour from scheduled\_departure) between 6 and 10

    then 'Morning'

    end as timings

from FLIGHTS

where extract(hour from scheduled\_departure) between 6 and 10

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 table\_1 as(

    select

        flight\_id,

        flight\_no,

        scheduled\_departure,

        scheduled\_arrival,

        departure\_airport,

        case when extract(hour from scheduled\_departure) between 2 and 5

        then 'Early Morning'

        end as timings,

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

    from FLIGHTS

    where extract(hour from scheduled\_departure) between 2 and 5)

select

    flight\_id,

    flight\_no,

    scheduled\_departure,

    scheduled\_arrival,

    departure\_airport,

    timings

from table\_1

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='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

order 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\_aircrafts

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 table\_1 as(

    select

        F.departure\_airport,

        A.airport\_name,

        count(\*)

    from FLIGHTS F

    join AIRPORTS A

    on F.departure\_airport=A.airport\_code

    group by 1,2

    order by 3 DESC)

select

    airport\_name

from table\_1

limit 1

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

Expected Output : Airport\_name

**Answer:**

with table\_1 as(

    select

        F.departure\_airport,

        A.airport\_name,

        count(\*)

    from FLIGHTS F

    join AIRPORTS A

    on F.departure\_airport=A.airport\_code

    group by 1,2

    order by 3 ASC)

select

    airport\_name

from table\_1

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

    F.flight\_no,

    F.aircraft\_code,

    A.range

from AIRCRAFTS A

join FLIGHTS F

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

where range between 3000 and 6000

group by 1,2,3

order by 3

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')

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(\*) 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

    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 range between 3000 and 6000

and departure\_airport='DME'

group by 1,2,3,4

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 AIRCRAFTS A

join FLIGHTS F

on A.aircraft\_code=F.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 AIRCRAFTS A

join FLIGHTS F

on A.aircraft\_code=F.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

**Answer:**

with table\_1 as(

    select

        A.airport\_name,

        count(\*) as cancel\_count

    from AIRPORTS A

    join FLIGHTS F

    on A.airport\_code=F.arrival\_airport

    where F.status='Cancelled'

    group by 1),

table\_2 as(

    select

        \*,

        rank() over(order by cancel\_count DESC) as rnk

    from table\_1)

select

    airport\_name

from table\_2

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 table\_1 as(

    select

        flight\_id,

        flight\_no,

        scheduled\_departure,

        departure\_airport,

        rank() over(partition by departure\_airport,date(scheduled\_departure) order by scheduled\_departure DESC) as rnk

    from FLIGHTS)

select

    flight\_id,

    flight\_no,

    scheduled\_departure,

    departure\_airport

from table\_1

where rnk=1

order by 4,3

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 table\_1 as(

    select

        flight\_id,

        flight\_no,

        scheduled\_departure,

        departure\_airport,

        rank() over(partition by departure\_airport,date(scheduled\_departure) order by scheduled\_departure ASC) as rnk

    from FLIGHTS

    where status='Cancelled')

select

    flight\_id,

    flight\_no,

    scheduled\_departure,

    departure\_airport

from table\_1

where rnk=1

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

*Expected Output : Flight\_id*

**Answer:**

select

    F.flight\_id

from AIRCRAFTS A

join FLIGHTS F

on A.aircraft\_code=F.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,

    max(A.range) as range

from AIRCRAFTS A

join FLIGHTS F

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

group by 1