**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;

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 as seat\_number, 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

from boarding\_passes

group by 1

having count(\*) = 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, '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),

t2 as

(select

\*, rank() over(partition by month\_name order by total\_amount desc) rnk

from t1)

select

month\_name, passenger\_id, passenger\_name, total\_amount

from t2

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 t1 as (select

to\_char(B.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),

t2 as

(select

\*, rank() over(partition by month\_name order by total\_amount asc) rnk

from t1)

select

month\_name, passenger\_id, passenger\_name, total\_amount

from t2

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(TF.flight\_id)

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;

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.boarding\_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:** with all\_flights as (select

distinct flight\_no, departure\_airport, arrival\_airport, aircraft\_code,

actual\_arrival - actual\_departure as durations

from flights),

non\_cancelled\_flights as (select

\*, rank() over(order by durations desc) rnk

from all\_flights

where durations is not null)

select

flight\_no, departure\_airport, arrival\_airport, aircraft\_code, durations

from non\_cancelled\_flights

where rnk = 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 t1 as (select

flight\_id, flight\_no, scheduled\_departure, scheduled\_arrival, to\_char(scheduled\_departure, 'HH24:MI:SS') as timings

from flights)

select

\*

from t1

where timings 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:** with t1 as (select

flight\_id, flight\_no, scheduled\_departure, scheduled\_arrival, departure\_airport, to\_char(scheduled\_departure, 'HH24:MI:SS') as timings

from flights

group by 1,2,3,4,5)

select

\*

from t1

where timings between '02:00:00' and '06:00:00';

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

Expected Output: Airport\_code.

**Answer:** select

airport\_code

from airports

where timezone in ('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;

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'

having count(aircraft\_code) >= 1;

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

Expected Output : Airport\_name

**Answer:** with t1 as (select

A.airport\_name, count(actual\_departure) as flight\_count

from Airports A

join Flights F

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

group by 1)

select

airport\_name

from t1

order by flight\_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 t1 as (select

A.airport\_name, count(scheduled\_departure) as flight\_count

from Airports A

join Flights F

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

group by 1)

select

airport\_name

from t1

order by flight\_count

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

distinct F.flight\_no,  F.aircraft\_code, AR.range as ranges

from flights F

join aircrafts AR

on F.aircraft\_code=AR.aircraft\_code

where AR.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) as flight\_count

from flights

where departure\_airport in ('URS', 'KUF')

and arrival\_airport in ('KUF', '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(flight\_id) 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(flight\_id) 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

distinct F.flight\_no, F.aircraft\_code, AR.range, F.departure\_airport

from Flights F

join Aircrafts AR

on F.aircraft\_code=AR.aircraft\_code

where AR.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, AR.model as aircraft\_model

from Flights F

join Aircrafts AR

on F.aircraft\_code=AR.aircraft\_code

where AR.model like '%Airbus%'

and F.status in ('Delayed', 'Cancelled');

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, AR.model as aircraft\_model

from Flights F

join Aircrafts AR

on F.aircraft\_code=AR.aircraft\_code

where AR.model like '%Boeing%'

and F.status in ('Delayed', 'Cancelled');

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

Expected Output : Airport\_name

**Answer:** with t1 as (select

A.airport\_name, F.status, count(flight\_id) as flight\_count,

dense\_rank() over(order by count(flight\_id) desc) rnk

from Airports A

join Flights F

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

where F.status = 'Cancelled'

group by 1,2)

select

airport\_name

from t1

where rnk = 1;

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

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

**Answer:** select

F.flight\_id, AR.model as aircraft\_model

from Flights F

join Aircrafts AR

on F.aircraft\_code=AR.aircraft\_code

where AR.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 latest\_flight as (select

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

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

from Flights)

select

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

from latest\_flight

where rnk = 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

T.passenger\_name, sum(TF.amount) as total\_refund

from Ticket\_flights TF

join Tickets T

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 Cancelled\_flights as (select

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

from Flights

where Status = 'Cancelled'),

First\_cancelled\_flights as

(select

\*,

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

from Cancelled\_flights)

select

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

from First\_cancelled\_flights

where rnk = 1;

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

*Expected Output : Flight\_id*

**Answer:** select

F.flight\_id

from Aircrafts AR

join Flights F

on F.aircraft\_code=AR.aircraft\_code

where AR.model like '%Airbus%'

and F.status = 'Cancelled';

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

*Expected Output : Flight\_no, range*

**Answer:** with highest\_range\_flights as (select

F.flight\_no, max(AR.range) as range,

rank() over(order by max(AR.range) desc) rnk

from Flights F

join Aircrafts AR

on F.aircraft\_code=AR.aircraft\_code

group by 1)

select

flight\_no, range

from highest\_range\_flights

where rnk = 1;