**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](../03_9e0c1f4307c584e537eabf4c70b4f6b3_txt_intermediate_docx/•%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-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, boarding\_no, seat\_no seat\_number, passenger\_id, passenger\_name

 FROM TICKETS T

 LEFT JOIN BOARDING\_PASSES BP

 ON T.ticket\_no=BP.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 1

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 T1 AS (

    SELECT TO\_CHAR(Book\_date, 'MON-YY') Month\_name, passenger\_id, passenger\_name, sum(total\_amount) total\_amount

    FROM Bookings B

    JOIN tickets t

    on t.book\_ref = b.book\_ref

    Group by 1,2,3

),

T2 AS(

    SELECT \*, RANK() OVER(PARTITION BY Month\_name ORDER BY total\_amount Desc) FROM T1

)

SELECT Month\_name, passenger\_id, passenger\_name, total\_amount

FROM T2

WHERE RANK = 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(Book\_date, 'MON-YY') Month\_name, passenger\_id, passenger\_name, sum(total\_amount) total\_amount

    FROM Bookings B

    JOIN tickets t

    on t.book\_ref = b.book\_ref

    order by 4 desc

),

T2 AS(

    SELECT \*, RANK() OVER(PARTITION BY Month\_name ORDER BY total\_amount asc) FROM T1

)

SELECT Month\_name, passenger\_id, passenger\_name, total\_amount

FROM T2

WHERE RANK = 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 Passenger\_id, passenger\_name, tf.ticket\_no ticket\_number,

count(flight\_id) flight\_count

FROM Tickets T

JOIN Ticket\_Flights TF

ON TF.ticket\_no = T.ticket\_no

GROUP BY 1,2,3

HAVING COUNT(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 boarding\_passes bp

right join tickets t

on bp.ticket\_no = t.ticket\_no

WHERE 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 t1 as (

    SELECT Flight\_no flight\_number, departure\_airport, arrival\_airport,

    aircraft\_code,

    (scheduled\_arrival-scheduled\_departure) durations

    from flights

    group by 1,2,3,4,5

    ),

t2 as (

    select \*,

    rank() over( order by durations desc) from t1

)

select Flight\_number, departure\_airport, arrival\_airport,

    aircraft\_code, durations

from t2

where rank = 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 flight\_number, scheduled\_departure, scheduled\_arrival,

 to\_char(cast(scheduled\_departure as time), 'HH-MI-SS AM') timmings

 from flights

 where extract(Hour from scheduled\_departure) >= 6

 AND extract(Hour from scheduled\_departure) < 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 flight\_number, scheduled\_departure, scheduled\_arrival, departure\_airport,

    to\_char(cast(scheduled\_departure as time), 'hh-mi-ss am') as timmings,

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

    from flights

    where extract (Hour from scheduled\_departure) >= 2

    AND  extract(Hour from scheduled\_departure) < 6

)

select  flight\_id, flight\_number, scheduled\_departure, scheduled\_arrival, departure\_airport,

timmings from t1

where rank = 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) over(partition by Aircraft\_code) seat\_count

from seats

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

Expected Output : Count of aircraft codes

**Answer:**

with t1 as (

    select aircraft\_code,

    count(case when fare\_conditions = 'Business' Then 'OK' ELSE Null END) n\_business

    from seats

    group by 1

    order by 2 asc

)

select count(aircraft\_code) from t1

where n\_business > 0

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

Expected Output : Airport\_name

**Answer:**

select  Airport\_name

    from flights f

    join airports a

    on departure\_airport = airport\_code

    group by 1

    order by count(flight\_id) desc

    limit 1

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

Expected Output : Airport\_name

**Answer:**

 select  Airport\_name

    from flights f

    join airports a

    on departure\_airport = airport\_code

    group by 1

    order by count(flight\_id) asc

    limit 1

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

Expected Output : Flight Count

**Answer:**

 SELECT COUNT(flight\_id) from Flight\_count

 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 flight\_no flight\_number, f.aircraft\_code, range ranges

FROM flights f

JOIN aircrafts 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:**

SELECT count(Flight\_id) Flight\_count

FROM flights

where (departure\_airport = 'URS' or departure\_airport ='KUF')

AND (arrival\_airport = 'KUF' or 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(Flight\_id) Flight\_count

FROM flights

where departure\_airport = 'NOZ'

OR departure\_airport = '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)

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 flight\_no, a.aircraft\_code, range, departure\_airport

FROM flights f

JOIN aircrafts a

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

WHERE (range between 3000 and 6000) and (departure\_airport = 'DME')

group by 1,2,3,4

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 aircraft\_model

FROM aircrafts a

JOIN flights f

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

WHERE model ilike '%Airbus%'  AND (status = 'Cancelled' or 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 flight\_id, model aircraft\_model

FROM aircrafts a

JOIN flights f

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

WHERE model ilike '%BOEING%'  AND (status = 'Cancelled' OR status = 'Delayed')

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

Expected Output : Airport\_name

**Answer:**

select airport\_name

FROM airports a

join flights f

on arrival\_airport = airport\_code

where Status = 'Cancelled'

group by 1

order by count(flight\_id) desc

limit 1

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

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

**Answer:**

SELECT flight\_id, model aircraft\_model

FROM aircrafts a

JOIN Flights f

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

WHERE model ilike '%Airbus%'

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 flight\_number, scheduled\_departure, departure\_airport,

    CAST(scheduled\_departure as date) schedule\_date,

    CAST(scheduled\_departure as time) schedule\_time

    FROM flights ),

T2 AS (

    SELECT \*,

    RANK() Over(PARTITION BY schedule\_date, departure\_airport ORDER BY schedule\_time desc) FROM t1

)

SELECT Flight\_id, flight\_number, scheduled\_departure, departure\_airport from t2

where rank = 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, sum(total\_amount) total\_refund

 from bookings b

 JOIN Tickets t

 ON b.book\_ref = t.book\_ref

 Join ticket\_flights tf

 on tf.ticket\_no = t.ticket\_no

 Join flights f

 on f.flight\_id = tf.flight\_id

 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 T1 AS (

    SELECT Flight\_id, flight\_no flight\_number, scheduled\_departure, departure\_airport,

    CAST(scheduled\_departure as date) schedule\_date,

    CAST(scheduled\_departure as time) schedule\_time

    FROM flights

    WHERE status = 'Cancelled' ),

T2 AS (

    SELECT \*,

    RANK() Over(PARTITION BY schedule\_date, departure\_airport ORDER BY schedule\_time asc) FROM t1

)

SELECT Flight\_id, flight\_number, scheduled\_departure, departure\_airport from t2

WHERE RANK = 1

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

*Expected Output : Flight\_id*

**Answer:**

SELECT flight\_id

From aircrafts a

Join Flights f

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

Where status = 'Cancelled'

AND model ilike '%Airbus%'

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

*Expected Output : Flight\_no, range*

Answer:

with t1 as (

    SELECT flight\_id, range

    From aircrafts a

    Join Flights f

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

),

T2 as (

    Select \*, raNK () OVER(ORDER BY RANGE DESC ) FROM T1

)

sELECT flight\_id, RANGE FROM T2

WHERE RANK = 1