**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\sai%20raj\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 FORMATTED\_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, BP.BOARDING\_NO, BP.SEAT\_NO, T.PASSENGER\_ID, T.PASSENGER\_NAME

FROM TICKETS AS T

INNER JOIN BOARDING\_PASSES AS 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, COUNT(SEAT\_NO)

FROM SEATS

GROUP BY SEAT\_NO

ORDER BY COUNT(SEAT\_NO)

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:**

SELECT MONTH\_WISE, PASSENGER\_ID,

PASSENGER\_NAME, TOTAL\_AMOUNT

FROM

(SELECT TO\_CHAR(BOOK\_DATE,'MON-YY') AS MONTH\_WISE, PASSENGER\_ID,

PASSENGER\_NAME, TOTAL\_AMOUNT,

RANK()

OVER(PARTITION BY TO\_CHAR(BOOK\_DATE,'MON-YY')

ORDER BY TOTAL\_AMOUNT DESC) AS RNK

FROM TICKETS AS T

INNER JOIN BOOKINGS AS B

ON T.BOOK\_REF=B.BOOK\_REF

) AS A

WHERE RNK=1

ORDER BY MONTH\_WISE

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:**

SELECT MONTH\_WISE, PASSENGER\_ID,

PASSENGER\_NAME, TOTAL\_AMOUNT

FROM

(SELECT TO\_CHAR(BOOK\_DATE,'MON-YY') AS MONTH\_WISE, PASSENGER\_ID,

PASSENGER\_NAME, TOTAL\_AMOUNT,

RANK()

OVER(PARTITION BY TO\_CHAR(BOOK\_DATE,'MON-YY')

ORDER BY TOTAL\_AMOUNT) AS RNK

FROM TICKETS AS T

INNER JOIN BOOKINGS AS B

ON T.BOOK\_REF=B.BOOK\_REF

) AS A

WHERE RNK=1

ORDER BY MONTH\_WISE

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,

T. T.TICKET\_NO,FLIGHT\_COUNT

FROM

(SELECT FLIGHT\_ID, COUNT(FLIGHT\_ID) AS FLIGHT\_COUNT

FROM TICKET\_FLIGHTS

GROUP BY 1

HAVING COUNT(FLIGHT\_ID)>1

) AS A

INNER JOIN TICKET\_FLIGHTS AS TF

ON A.FLIGHT\_ID=TF.FLIGHT\_ID

INNER JOIN TICKETS AS T

ON TF.TICKET\_NO=T.TICKET\_NO

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

Expected Output: just one number is required.

**Answer:** SELECT COUNT(TICKET\_NO)

FROM BOARDING\_PASSES

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 TABLE1 AS

(SELECT FLIGHT\_NO, DEPARTURE\_AIRPORT, ARRIVAL\_AIRPORT, AIRCRAFT\_CODE,

MAX(ACTUAL\_ARRIVAL - ACTUAL\_DEPARTURE) AS DURATIONS

FROM FLIGHTS

GROUP BY 1,2,3,4

ORDER BY 5 DESC)

SELECT \*

FROM TABLE1

WHERE DURATIONS IS NOT NULL

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, TIMINGS

FROM

(SELECT FLIGHT\_ID, FLIGHT\_NO,

SCHEDULED\_DEPARTURE, SCHEDULED\_ARRIVAL,

CASE WHEN EXTRACT (HOUR FROM SCHEDULED\_DEPARTURE) BETWEEN 6 AND 10

THEN 'MORNING'

ELSE 'NOT MORNING'

END AS TIMINGS

FROM FLIGHTS) AS A

WHERE TIMINGS='MORNING'

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 TABLE1 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'

ELSE 'NOT EARLY MORNING'

END AS TIMINGS

FROM FLIGHTS),

TABLE2 AS (

SELECT FLIGHT\_ID, FLIGHT\_NO, SCHEDULED\_DEPARTURE, SCHEDULED\_ARRIVAL, TIMINGS, DEPARTURE\_AIRPORT,

RANK() OVER(PARTITION BY DEPARTURE\_AIRPORT ORDER BY TIMINGS) AS RNK

FROM TABLE1)

SELECT \*

FROM TABLE2

WHERE TIMINGS='EARLY MORNING' AND 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(DISTINCT SEAT\_NO) AS SEAT\_COUNT

FROM SEATS

GROUP BY AIRCRAFT\_CODE, FARE\_CONDITIONS

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'

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

Expected Output : Airport\_name

**Answer:** SELECT AIRPORT\_NAME

FROM

(SELECT DEPARTURE\_AIRPORT, COUNT(\*) AS DEPARTURE\_COUNT

FROM FLIGHTS

GROUP BY DEPARTURE\_AIRPORT

) AS DEPARTURE\_COUNTS

INNER JOIN AIRPORTS

ON AIRPORTS.AIRPORT\_CODE = DEPARTURE\_COUNTS.DEPARTURE\_AIRPORT

ORDER BY DEPARTURE\_COUNT 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

(SELECT DEPARTURE\_AIRPORT, COUNT(\*) AS DEPARTURE\_COUNT

FROM FLIGHTS

GROUP BY DEPARTURE\_AIRPORT

) AS DEPARTURE\_COUNTS

INNER JOIN AIRPORTS

ON AIRPORTS.AIRPORT\_CODE = DEPARTURE\_COUNTS.DEPARTURE\_AIRPORT

ORDER BY DEPARTURE\_COUNT

LIMIT 1;

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

Expected Output : Flight Count

**Answer:** SELECT COUNT(FLIGHT\_ID)

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 FLIGHT\_NO, A.AIRCRAFT\_CODE,RANGE

FROM AIRCRAFTS A

JOIN FLIGHTS F

ON A**.**AIRCRAFT\_CODE=F**.**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(\*) AS FLIGHT\_COUNT

FROM FLIGHTS

WHERE DEPARTURE\_AIRPORT = 'URS'

AND ARRIVAL\_AIRPORT = '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(\*) AS FLIGHT\_COUNT

FROM FLIGHTS

WHERE DEPARTURE\_AIRPORT = 'NOZ'

AND ARRIVAL\_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(\*) AS FLIGHT\_COUNT

FROM FLIGHTS

WHERE DEPARTURE\_AIRPORT

IN ('KZN', 'DME', 'NBC', 'NJC', 'GDX', 'SGC', 'VKO', 'ROV')

GROUP BY DEPARTURE\_AIRPORT

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 AIRCRAFTS A

JOIN FLIGHTS F

ON A**.**AIRCRAFT\_CODE=F**.**AIRCRAFT\_CODE

WHERE (DEPARTURE\_AIRPORT=’DME’) AND

(RANGE BETWEEN 3000 AND 6000)

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, AIRCRAFT\_MODEL

FROM

(SELECT FLIGHT\_ID,

SUBSTRING(MODEL,9,6) AS AIRCRAFT\_MODEL, STATUS

FROM FLIGHTS F

JOIN AIRCRAFTS AC

ON F.AIRCRAFT\_CODE=AC.AIRCRAFT\_CODE) AS A

WHERE AIRCRAFT\_MODEL='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, AIRCRAFT\_MODEL

FROM

(SELECT FLIGHT\_ID,

SUBSTRING(MODEL,9,6) AS AIRCRAFT\_MODEL, STATUS

FROM FLIGHTS F

JOIN AIRCRAFTS AC

ON F.AIRCRAFT\_CODE=AC.AIRCRAFT\_CODE) AS A

WHERE AIRCRAFT\_MODEL='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

(SELECT AIRPORT\_NAME,

COUNT(\*)

FROM AIRPORTS A

JOIN FLIGHTS F

ON A.AIRPORT\_CODE = F.ARRIVAL\_AIRPORT

WHERE STATUS='CANCELLED'

GROUP BY 1

ORDER BY 2 DESC

LIMIT 1

) AS R

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

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

**Answer:** SELECT FLIGHT\_ID, AIRCRAFT\_MODEL

FROM

(SELECT FLIGHT\_ID, SUBSTRING(MODEL,9,6) AS AIRCRAFT\_MODEL

FROM FLIGHTS F

JOIN AIRCRAFTS A

ON A.AIRCRAFT\_CODE = F.AIRCRAFT\_CODE

) AS R

WHERE AIRCRAFT\_MODEL='AIRBUS'

1. ***Identify date-wise last flight id flying from every airport?***

*Expected Output: Flight\_id,flight\_number,schedule\_departure,departure\_airport*

**Answer:** WITH TABLE1 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) AS RNK

FROM FLIGHTS AS F

)

SELECT FLIGHT\_ID,FLIGHT\_NO,

SCHEDULED\_DEPARTURE,DEPARTURE\_AIRPORT

FROM TABLE1

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 PASSENGER\_NAME,

SUM(TOTAL\_AMOUNT) AS TOTAL\_REFUND

FROM

(SELECT \*

FROM FLIGHTS F

JOIN TICKET\_FLIGHTS TF

ON F.FLIGHT\_ID=TF.FLIGHT\_ID

JOIN TICKETS T

ON TF.TICKET\_NO=T.TICKET\_NO

JOIN BOOKINGS B

ON T.BOOK\_REF=B.BOOK\_REF

WHERE F.STATUS='CANCELLED'

) AS R

GROUP BY PASSENGER\_NAME

1. ***Identify date wise first cancelled flight id flying for every airport?***

*Expected Output : Flight\_id,flight\_number,schedule\_departure,departure\_airport*

**Answer:** SELECT FLIGHT\_ID,FLIGHT\_NO,

SCHEDULED\_DEPARTURE,DEPARTURE\_AIRPORT

FROM

(SELECT FLIGHT\_ID, FLIGHT\_NO, SCHEDULED\_DEPARTURE,

DEPARTURE\_AIRPORT,

RANK() OVER(PARTITION BY DEPARTURE\_AIRPORT ORDER BY DATE(SCHEDULED\_DEPARTURE)) AS RNK

FROM FLIGHTS F

WHERE STATUS='CANCELLED'

) AS R

WHERE RNK=1

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

*Expected Output : Flight\_id*

**Answer:** SELECT FLIGHT\_ID

FROM

(SELECT FLIGHT\_ID, SUBSTRING(MODEL,9,6) AS AIRCRAFT\_MODEL, STATUS

FROM FLIGHTS F

JOIN AIRCRAFTS A

ON F.AIRCRAFT\_CODE=A.AIRCRAFT\_CODE

) AS R

WHERE STATUS='CANCELLED' AND AIRCRAFT\_MODEL='AIRBUS'

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

*Expected Output : Flight\_no, range*

**Answer:** SELECT FLIGHT\_ID, MAX(RANGE) AS RANGE

FROM FLIGHTS F

JOIN AIRCRAFTS A

ON F.AIRCRAFT\_CODE=A.AIRCRAFT\_CODE

GROUP BY 1

ORDER BY 2 DESC