## CAPSTONE PROJECT

QUESTIONS AND ANSWERS –

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:**

**QUERY**

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:**

**QUERY**

SELECT

B.ticket\_no,

B.boarding\_no,

B.seat\_no as seat\_number,

T.passenger\_id,

T.passenger\_name

FROM BOARDING\_PASSES B

JOIN TICKETS T

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:**

**QUERY**

SELECT

MIN(seat\_no) as seat\_no

FROM BOARDING\_PASSES

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:**

**QUERY**

WITH T1 AS (

    SELECT

    TO\_CHAR(B.book\_date,'mmm-yy') as Month\_name,

    T.passenger\_id,

    T.passenger\_name,

    B.total\_amount

    FROM BOOKINGS B

    JOIN TICKETS T

    ON T.book\_ref=B.book\_ref

),

t2 as (

    SELECT

    \*,

    RANK() OVER (PARTITION BY Month\_name ORDER BY total\_amount DESC) AS 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:**

**QUERY**

WITH T1 AS (

    SELECT

    TO\_CHAR(B.book\_date,'mmm-yy') as Month\_name,

    T.passenger\_id,

    T.passenger\_name,

    B.total\_amount

    FROM BOOKINGS B

    JOIN TICKETS T

    ON T.book\_ref=B.book\_ref

),

t2 as (

    SELECT

    \*,

    RANK() OVER (PARTITION BY Month\_name ORDER BY total\_amount ASC) AS RNK

    FROM T1

)

SELECT

Month\_name,

passenger\_id,

passenger\_name,

total\_amount

FROM T2

WHERE RNK=1

1. **Identify the travel details of the flights having return journey (more than 1 flight).**

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

**Answer:**

**QUERY**

SELECT

T.passenger\_id,

T.passenger\_name,

T.ticket\_no AS ticket\_number,

COUNT(flight\_id) as flight\_count

FROM TICKETS T

JOIN BOARDING\_PASSES B

ON B.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:**

**QUERY**

SELECT

COUNT(T.ticket\_no)

FROM TICKETS T

JOIN BOARDING\_PASSES B

ON T.ticket\_no=B.ticket\_no

WHERE B.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:**

**QUERY**

WITH T1 AS (

    SELECT

flight\_no as Flight\_number,

departure\_airport,

arrival\_airport,

aircraft\_code,

(scheduled\_arrival-scheduled\_departure) as durations

FROM FLIGHTS

), T2 AS (

    SELECT

    \*,

    RANK () OVER (ORDER BY durations DESC) AS RNK

    FROM T1

)

SELECT

Flight\_number,

departure\_airport,

arrival\_airport,

aircraft\_code,

durations

FROM T2

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:**

**QUERY**

WITH T1 AS (

    SELECT

flight\_id,

flight\_no as flight\_number,

scheduled\_departure,

scheduled\_arrival,

TO\_CHAR(scheduled\_departure,'HH24:MM: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.Early morning: 2:00 am to 6:00 am.**

Expected output: flight\_id, flight\_number, scheduled\_departure, scheduled\_arrival, departure airport and timings.

**Answer:**

**QUERY**

WITH T1 AS (

    SELECT

flight\_id,

flight\_no as flight\_number,

scheduled\_departure,

scheduled\_arrival,

departure\_airport,

TO\_CHAR(scheduled\_departure,'HH24:MM:SS') AS timings

FROM FLIGHTS

), T2 AS (

    SELECT

    \*,

    RANK() OVER (PARTITION BY departure\_airport ORDER BY timings ASC) AS RNK

    FROM T1

)

SELECT

flight\_id,

flight\_number,

scheduled\_departure,

scheduled\_arrival,

departure\_airport,

timings

FROM T2

WHERE timings BETWEEN '02:00:00'  AND '06:00:00' AND RNK = 1

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

Expected Output:  Airport\_code.

**Answer:**

**QUERY**

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:**

**QUERY**

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:**

**QUERY**

SELECT

COUNT(aircraft\_code) as count\_of\_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:**

**QUERY**

WITH T1 AS (

    SELECT

    A.airport\_name AS Airport\_name,

    COUNT(F.departure\_airport)

    FROM AIRPORTS A

    JOIN FLIGHTS F

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

    GROUP BY 1

    ORDER BY 2 DESC

    LIMIT 1

)

SELECT

Airport\_name

FROM T1

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

Expected Output : Airport\_name

**Answer:**

**QUERY**

WITH T1 AS (

    SELECT

    A.airport\_name AS Airport\_name,

    COUNT(F.departure\_airport)

    FROM AIRPORTS A

    JOIN FLIGHTS F

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

    GROUP BY 1

    ORDER BY 2 ASC

    LIMIT 1

)

SELECT

Airport\_name

FROM T1

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

 Expected Output : Flight Count

**Answer:**

**QUERY**

SELECT

COUNT(departure\_airport) AS Flight\_count

from FLIGHTS

WHERE actual\_departure IS NULL

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

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

**Answer:**

**QUERY**

SELECT

F.flight\_no AS Flight\_number,

A.aircraft\_code,

A.range

FROM AIRCRAFTS A

JOIN FLIGHTS F

ON A.aircraft\_code=F.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:**

**QUERY**

SELECT

COUNT(flight\_id) AS Flight\_count

FROM FLIGHTS

WHERE departure\_airport IN ('URS','KUF') AND arrival\_airport IN ('URS','KUF')

1. **Write a query to get the count of flights flying from either from NOZ or KRR?**

 Expected Output : Flight count

**Answer:**

**QUERY**

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:**

**QUERY**

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:**

**QUERY**

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 A.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:**

**QUERY**

SELECT

F.flight\_id,

A.model as aircraft\_model

FROM AIRCRAFTS A

JOIN FLIGHTS F

ON F.aircraft\_code=A.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:**

**QUERY**

SELECT

F.flight\_id,

A.model as aircraft\_model

FROM AIRCRAFTS A

JOIN FLIGHTS F

ON F.aircraft\_code=A.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 T1 AS (

    SELECT

A.airport\_name AS Airport\_name,

COUNT(F.arrival\_airport)

FROM AIRPORTS A

JOIN FLIGHTS F

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

WHERE F.status = 'cancelled'

GROUP BY 1

order by 2 desc

LIMIT 1

)

SELECT

Airport\_name

FROM T1

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

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

**Answer:**

**QUERY**

SELECT

F.flight\_id,

A.model as aircraft\_model

FROM AIRCRAFTS A

JOIN FLIGHTS F

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:**

**QUERY**

WITH T1 AS (

    SELECT

flight\_id,

flight\_no AS flight\_number,

SCHEDULED\_DEPARTURE,

RANK() OVER (PARTITION BY departure\_airport ORDER BY SCHEDULED\_DEPARTURE DESC) AS RNK,

departure\_airport

FROM FLIGHTS

)

SELECT

flight\_id,

flight\_number,

SCHEDULED\_DEPARTURE,

departure\_airport

FROM T1

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:**

**QUERY**

WITH T1 AS (

    SELECT

T.passenger\_name as passenger\_name,

TF.amount as Total\_refund,

F.STATUS

FROM TICKETS T

JOIN TICKET\_FLIGHTS TF

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

JOIN FLIGHTS F

ON F.flight\_id=TF.flight\_id

)

SELECT

passenger\_name,

Total\_refund

FROM T1

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:**

**QUERY**

WITH T1 AS (

    SELECT

flight\_id,

flight\_no AS flight\_number,

SCHEDULED\_DEPARTURE,

status,

RANK() OVER (PARTITION BY departure\_airport ORDER BY status ASC) AS RNK,

departure\_airport

FROM FLIGHTS

WHERE status= 'Cancelled'

), T2 AS

 (

SELECT

\*,

RANK() OVER (PARTITION BY departure\_airport ORDER BY scheduled\_departure ASC  ) RK

FROM T1

 )

 SELECT

 flight\_id,

 flight\_number,

 scheduled\_departure,

 departure\_airport

 FROM T2

WHERE RK =1

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

*Expected Output : Flight\_id*

**Answer:**

**QUERY**

WITH T1 AS (

    SELECT

    F.flight\_id as flight\_id,

    F.status as status,

    A.model as model

    FROM AIRCRAFTS A

    JOIN FLIGHTS F

    ON F.aircraft\_code=A.aircraft\_code

    WHERE A.model LIKE '%Airbus%' AND F.status = 'Cancelled'

)

SELECT

flight\_id

FROM T1

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

*Expected Output : Flight\_id, range*

**Answer:**

**QUERY**

SELECT

F.flight\_id,

A.range

FROM AIRCRAFTS A

JOIN FLIGHTS F

ON F.aircraft\_code=A.aircraft\_code

ORDER BY 2 DESC