**Capstone Project - Airline db**

1. ***Represent the “book\_date” column in “yyyy-mmm-dd” format using Bookings table***

ANS :

SELECT

    book\_ref,

    TO\_CHAR(book\_date, 'yyyy-Mon-dd'),

    total\_amount

FROM BOOKINGS

1. **Get the following columns in the exact same sequence.**

ANS:

SELECT

    b.ticket\_no,

    b.boarding\_no,

    b.seat\_no,

    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?**

ANS:

SELECT

    seat\_no

FROM (

    SELECT

        seat\_no,

        COUNT(\*) AS total\_count

    FROM BOARDING\_PASSES

    GROUP BY 1

    ORDER BY 2 ASC) t

LIMIT 1

1. ***In the database, identify the month wise highest paying passenger name and passenger id.***

ANS:

WITH RankedPayments AS (

    SELECT

        t.passenger\_id,

        t.passenger\_name,

        b.total\_amount,

        TO\_CHAR(b.book\_date, 'Mon-YY') AS month,

        ROW\_NUMBER() OVER (PARTITION BY TO\_CHAR(b.book\_date, 'Mon-YY') ORDER BY b.total\_amount DESC) AS rn

    FROM

        bookings b

    JOIN

        tickets t ON t.book\_ref = b.book\_ref

)

SELECT

    month,

    passenger\_id,

    passenger\_name,

    total\_amount

FROM

    RankedPayments

WHERE

    rn = 1

1. ***In the database, identify the month wise least paying passenger name and passenger id?***

ANS:

WITH RankedPayments AS (

    SELECT

        t.passenger\_id,

        t.passenger\_name,

        b.total\_amount,

        TO\_CHAR(b.book\_date, 'Mon-YY') AS month,

        ROW\_NUMBER() OVER (PARTITION BY TO\_CHAR(b.book\_date, 'Mon-YY') ORDER BY b.total\_amount ASC) AS rn

    FROM

        bookings b

    JOIN

        tickets t ON t.book\_ref = b.book\_ref

)

SELECT

    month,

    passenger\_id,

    passenger\_name,

    total\_amount

FROM

    RankedPayments

WHERE

    rn = 1

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

ANS:

SELECT

    t.Passenger\_id,

    t.passenger\_name,

    t.ticket\_no,

    count(b.flight\_id) as flight\_count

FROM TICKETS t

JOIN BOARDING\_PASSES b

ON t.ticket\_no = b.ticket\_no

GROUP BY 1,2,3

HAVING count(b.flight\_id) > 1

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

ANS:

SELECT

COUNT(\*)

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)?**

ANS:

SELECT

    flight\_no,

    departure\_airport,

    arrival\_airport,

    aircraft\_code,

    actual\_arrival - actual\_departure AS durations

FROM flights

WHERE actual\_arrival IS NOT NULL AND actual\_departure IS NOT NULL

ORDER BY 5 DESC

LIMIT 1

1. **Identify details of all the morning flights (morning means between 6AM to 11 AM, using flights table)?**

ANS:

SELECT

    flight\_id,

    flight\_no,

    scheduled\_departure,

    scheduled\_arrival,

    EXTRACT(hour FROM scheduled\_departure) as timings --TIMING IS TAKEN IN 24HR FORMAT

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.Early morning: 2:00 am to 6:00 am.**

ANS:

WITH flight\_timing as

(SELECT

    flight\_id,

    flight\_no,

    scheduled\_departure,

    scheduled\_arrival,

    departure\_airport,

    rank() OVER(PARTITION BY departure\_airport ORDER BY scheduled\_departure ASC) AS rnk,

    EXTRACT(hour FROM scheduled\_departure) as timings--TIMING IS TAKEN IN 24HR FORMAT

FROM flights)

SELECT

    flight\_id,

    flight\_no,

    scheduled\_departure,

    scheduled\_arrival,

    departure\_airport,

    timings

FROM flight\_timing

WHERE rnk = 1 AND EXTRACT(hour FROM scheduled\_departure) >=2 AND EXTRACT(hour FROM scheduled\_departure) <= 6

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

ANS:

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?**

ANS:

SELECT

    aircraft\_code,

    fare\_conditions,

    COUNT(\*) as seat\_count

FROM seats

GROUP BY 1,2

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

ANS:

SELECT

    COUNT(DISTINCT aircraft\_code) as Count\_aircraft\_codes

FROM seats

WHERE fare\_conditions = 'Business'

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

ANS:

SELECT

    a.airport\_name

FROM airports a

JOIN flights f

ON f.departure\_airport = a.airport\_code

GROUP BY 1

ORDER BY COUNT(f.scheduled\_departure) desc

LIMIT 1

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

ANS:

SELECT

    a.airport\_name

FROM airports a

JOIN flights f

ON f.departure\_airport = a.airport\_code

GROUP BY 1

ORDER BY COUNT(f.scheduled\_departure) ASC

LIMIT 1

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

ANS:

SELECT

    COUNT(\*) AS Flight\_Count

FROM flights

WHERE departure\_airport = 'DME' AND actual\_departure IS NULL

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

ANS:

SELECT

    f.flight\_no,

    f.aircraft\_code,

    a.range

FROM flights f

JOIN aircrafts a

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

WHERE a.range BETWEEN 3000 AND 6000

1. **Write a query to get the count of flights flying between URS and KUF?**

ANS:

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?**

ANS:

SELECT

    COUNT(\*) AS 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**

ANS:

SELECT

    departure\_airport,

    COUNT(\*) 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**

ANS:

SELECT

    f.flight\_no,

    f.aircraft\_code,

    a.range,

    f.departure\_airport

FROM flights f

JOIN aircrafts a

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

WHERE (a.range BETWEEN 3000 AND 6000) AND departure\_airport = 'DME'

1. **Find the list of flight ids which are using aircrafts from “Airbus” company and got cancelled or delayed**

ANS:

SELECT

    f.flight\_id,

    a.model

FROM flights f

JOIN aircrafts a

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

WHERE (f.status = 'Delayed' OR f.status = 'Cancelled') AND a.model LIKE '%Airbus%'

1. **Find the list of flight ids which are using aircrafts from “Boeing” company and got cancelled or delayed**

ANS:

SELECT

    f.flight\_id,

    a.model

FROM flights f

JOIN aircrafts a

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

WHERE (f.status = 'Delayed' OR f.status = 'Cancelled') AND a.model LIKE '%Boeing%'

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

ANS:

SELECT

    a.airport\_name

FROM flights f

JOIN AIRPORTS a

ON f.arrival\_airport = a.airport\_code

WHERE f.status = 'Cancelled'

GROUP BY 1

ORDER BY COUNT(\*) DESC

LIMIT 1

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

ANS:

SELECT

    f.flight\_id,

    a.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?***

ANS:

SELECT

    Flight\_id,

    flight\_no,

    scheduled\_departure,

    departure\_airport

FROM (SELECT

\*,

row\_number() OVER(PARTITION BY departure\_airport ORDER BY scheduled\_departure DESC) as rnk

FROM flights) F

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?***

ANS:

SELECT

    t.passenger\_name,

    SUM(tf.amount) AS total\_refund

FROM TICKETS t

JOIN TICKET\_FLIGHTS tf

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?***

ANS:

WITH flight\_details AS (

SELECT

    Flight\_id,

    flight\_no,

    scheduled\_departure,

    departure\_airport,

    row\_number() OVER(PARTITION BY departure\_airport ORDER BY scheduled\_departure ASC) as First\_flight

FROM flights

WHERE status = 'Cancelled'

)

SELECT

    Flight\_id,

    flight\_no,

    scheduled\_departure,

    departure\_airport

FROM flight\_details

WHERE First\_flight = 1

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

ANS:

SELECT

    f.flight\_id

FROM flights f

JOIN aircrafts a

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

WHERE a.model LIKE '%Airbus%' AND f.status = 'Cancelled'

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

ANS:

WITH range\_details as (

SELECT

    f.Flight\_id,

    a.range,

    RANK() OVER(ORDER BY a.range DESC) AS rnk

FROM FLIGHTS f

JOIN AIRCRAFTS a

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

)

SELECT

    Flight\_id,

    range

FROM range\_details

WHERE rnk = 1