**Airline Database**

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'),

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,

    TI.passenger\_id,

    TI.passenger\_name

FROM

    boarding\_passes BP

    INNER JOIN

    tickets TI

ON

    BP.ticket\_no = TI.ticket\_no

1. **Write a query to find the seat number which is least allocated among all the seats?**

**Answer:**

WITH cte AS

(

SELECT

    seat\_no,

    RANK() OVER (ORDER BY COUNT(seat\_no) asc) as least\_no

FROM

    boarding\_passes

GROUP BY

    1

)

SELECT

    seat\_no

FROM

    cte

WHERE

    least\_no=1

if we want all one sit (in our case there are 3 seats no. same) then add 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 cte AS

(SELECT

    TO\_CHAR(BO.book\_date,'mon-yy') AS Month\_name,

    TI.passenger\_id,

    TI.passenger\_name,

    MAX(BO.total\_amount) AS  total\_amount,

    RANK() OVER (PARTITION BY TO\_CHAR(BO.book\_date,'mon-yy') ORDER BY MAX(BO.total\_amount) DESC) as high\_amt

FROM

    bookings BO

    INNER JOIN

    tickets TI

ON

    BO.book\_ref = TI.book\_ref

GROUP BY

    1,2,3)

SELECT

    Month\_name,

    passenger\_id,

    passenger\_name,

    total\_amount

FROM

    cte

WHERE

    high\_amt = 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 cte AS

(SELECT

    TO\_CHAR(BO.book\_date,'mon-yy') AS Month\_name,

    TI.passenger\_id,

    TI.passenger\_name,

    MIN(BO.total\_amount) AS  total\_amount,

    RANK() OVER (PARTITION BY TO\_CHAR(BO.book\_date,'mon-yy') ORDER BY MIN(BO.total\_amount) ASC) as low\_amt

FROM

    bookings BO

    INNER JOIN

    tickets TI

ON

    BO.book\_ref = TI.book\_ref

GROUP BY

    1,2,3)

SELECT

    Month\_name,

    passenger\_id,

    passenger\_name,

    total\_amount

FROM

    cte

WHERE

    low\_amt = 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:**

WITH cte AS

(

SELECT

    T.passenger\_id,

    T.passenger\_name,

    TF.ticket\_no,

    COUNT(\*) as flight\_count

FROM

    tickets T

    INNER JOIN

    ticket\_flights TF

ON

    T.ticket\_no=TF.ticket\_no

    INNER JOIN

    flights F

ON

    F.flight\_id=TF.flight\_id

GROUP BY

    1,2,3

)

SELECT

    passenger\_id,

    passenger\_name,

    ticket\_no,

    flight\_count

FROM

    cte

WHERE

    flight\_count>1

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

Expected Output: just one number is required.

**Answer:**

SELECT

    COUNT(\*)

FROM

    tickets TI

    LEFT JOIN

    boarding\_passes BO

ON

    TI.ticket\_no = BO.ticket\_no

WHERE

    BO.ticket\_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:**

SELECT

    flight\_no,

    departure\_airport,

    arrival\_airport,

    aircraft\_code,

    MAX(scheduled\_arrival - scheduled\_departure) AS durations

FROM

    flights

WHERE

    scheduled\_arrival - scheduled\_departure =  (SELECT MAX(scheduled\_arrival - scheduled\_departure) FROM flights)

GROUP BY

    1,2,3,4

ORDER BY

    5 DESC

(in question mentioned we want flight but we have 4 flights equal longest duration that’s why I am printing all flight which have longest duration; if Expected result wants one flight: then, add LIMIT 1 at end)

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,

    'morning flight' AS Timings

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 cte AS

(

SELECT

    flight\_id,

    flight\_no,

    scheduled\_departure,

    scheduled\_arrival,

    departure\_airport,

   'earliest morning flight' AS timings,

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

FROM

    flights

WHERE

    EXTRACT(HOUR FROM scheduled\_departure)>=2

    AND

    EXTRACT(HOUR FROM scheduled\_departure)<6

)

SELECT

    flight\_id,

    flight\_no,

    scheduled\_departure,

    scheduled\_arrival,

    departure\_airport,

    timings

FROM

    cte

WHERE

    ranks = 1

ORDER BY

    timings ASC

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,

    COUNT(seats),

    fare\_conditions

FROM

    seats

GROUP BY

    1,3

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

Expected Output : Count of aircraft codes

**Answer:**

WITH cte AS

(SELECT

    COUNT(DISTINCT aircraft\_code) AS aircraft\_code,

    COUNT(seats) AS cnt

FROM

    seats

WHERE

    fare\_conditions = 'Business' )

SELECT

    aircraft\_code

FROM

    cte

WHERE

    cnt > 1

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

Expected Output : Airport\_name

**Answer:**

WITH cte AS

(SELECT

    departure\_airport AS Airport\_name,

    COUNT(flight\_id)

FROM

    flights F

    INNER JOIN

    airports A

ON

    A.airport\_code = F.departure\_airport

GROUP BY

    1

ORDER BY

    2 DESC

LIMIT 1)

SELECT

    Airport\_name

FROM

    cte

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

Expected Output : Airport\_name

**Answer:**

WITH cte AS

(SELECT

    departure\_airport AS Airport\_name,

    COUNT(flight\_id)

FROM

    flights F

    INNER JOIN

    airports A

ON

    A.airport\_code = F.departure\_airport

GROUP BY

    1

ORDER BY

    2 ASC

LIMIT 1)

SELECT

    Airport\_name

FROM

    cte

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

Expected Output : Flight Count

**Answer:**

SELECT

    COUNT(\*) AS flight\_count

FROM

    flights

WHERE

    actual\_departure IS NULL

    AND

    departure\_airport = 'DME'

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

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

**Answer:**

SELECT

    DISTINCT F.flight\_no,

    AC.aircraft\_code,

    AC.range

FROM

    flights F

    INNER JOIN

    aircrafts AC

ON

    F.aircraft\_code = AC.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) 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?**

Expected Output : Flight count

**Answer:**

SELECT

    COUNT(flight\_id) 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**

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,

    AC.aircraft\_code,

    AC.range,

    f.departure\_airport

FROM

    flights F

    INNER JOIN

    aircrafts AC

ON

    F.aircraft\_code = AC.aircraft\_code

WHERE

    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,

    AC.model as aircraft\_model

FROM

    flights F

    INNER JOIN

    aircrafts AC

ON

    F.aircraft\_code = AC.aircraft\_code

WHERE

    F.status IN ('Delayed','Cancelled')

    AND

    AC.model like '%Airbus%'

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,

    AC.model as aircraft\_model

FROM

    flights F

    INNER JOIN

    aircrafts AC

ON

    F.aircraft\_code = AC.aircraft\_code

WHERE

    F.status IN ('Delayed','Cancelled')

    AND

    AC.model like '%Boeing%'

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

Expected Output : Airport\_name

**Answer:**

WITH cte AS

(SELECT

    A.airport\_name,

    RANK() OVER (ORDER BY COUNT(A.airport\_name) DESC) as rnk

FROM

    airports A

    INNER JOIN

    flights F

ON

    A.airport\_code = F.arrival\_airport

WHERE

    F.status = 'Cancelled'

GROUP BY

    1)

SELECT

    airport\_name

FROM

    cte

WHERE

    rnk = 1

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

Expected Output : Flight\_id,aircraft\_model

**Answer:**

SELECT

    F.flight\_id,

    AC.model as aircraft\_model

FROM

    flights F

    INNER JOIN

    aircrafts AC

ON

    F.aircraft\_code = AC.aircraft\_code

WHERE

    AC.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 cte AS

(

SELECT

    flight\_id,

    flight\_no,

    scheduled\_departure,

    departure\_airport,

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

FROM

    flights

)

SELECT

    flight\_id,

    flight\_no,

    scheduled\_departure,

    departure\_airport

FROM

    cte

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

    tickets T

    JOIN

    ticket\_flights TF

ON

    T.ticket\_no = TF.ticket\_no

    JOIN

    flights F

ON

    TF.flight\_id = F.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 cte AS

(SELECT

    flight\_id,

    flight\_no,

    scheduled\_departure,

    departure\_airport,

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

FROM

    flights

WHERE

    status = 'Cancelled')

SELECT

    flight\_id,

    flight\_no,

    scheduled\_departure,

    departure\_airport

FROM

    cte

WHERE

    rnk = 1

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

Expected Output : Flight\_id

**Answer:**

SELECT

    F.flight\_id

FROM

    flights F

    INNER JOIN

    aircrafts AC

ON

    F.aircraft\_code = AC.aircraft\_code

WHERE

    AC.model like '%Airbus%'

    AND

    F.status = 'Cancelled'

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

Expected Output : Flight\_no, range

**Answer:**

WITH cte AS

(SELECT

    F.flight\_id,

    F.flight\_no as flight\_no,

    AC.range as range

FROM

    flights F

    INNER JOIN

    aircrafts AC

ON

    F.aircraft\_code = AC.aircraft\_code

WHERE

    AC.range = (SELECT MAX(range) FROM aircrafts))

SELECT

    flight\_no,

    range

FROM

    cte