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 Dates,

    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,

    passenger\_id,

    passenger\_name

FROM TICKETS T

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 BOARDING\_PASSES

 GROUP BY 1

 HAVING COUNT(\*) = 1

 ORDER BY COUNT(\*)

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

    TO\_CHAR(book\_date,'mmm-yy') AS MONTHS,

    passenger\_id,

    passenger\_name,

    total\_amount

 FROM TICKETS T

 JOIN BOOKINGS B ON T.book\_ref = B.book\_ref

 WHERE

 (TO\_CHAR(book\_date,'mmm-yy'), total\_amount)

 IN (SELECT

            TO\_CHAR(book\_date,'mmm-yy') AS MONTHS,

            MAX(total\_amount)

     FROM BOOKINGS

     GROUP BY 1)

 ORDER BY 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:**

 SELECT

    TO\_CHAR(book\_date,'mmm-yy') AS MONTHS,

    passenger\_id,

    passenger\_name,

    total\_amount

 FROM TICKETS T

 JOIN

 BOOKINGS B ON T.book\_ref = B.book\_ref

 WHERE

 (TO\_CHAR(book\_date,'mmm-yy'), total\_amount)

 IN (SELECT

            TO\_CHAR(book\_date,'mmm-yy') AS MONTHS,

            MIN(total\_amount)

            FROM BOOKINGS

            GROUP BY 1)

 ORDER BY 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,

    T.ticket\_no,

    COUNT(flight\_id) AS FLIGHTS

 FROM TICKETS T

 JOIN

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

 GROUP BY 1,2,3

 HAVING COUNT(flight\_id) > 1

 ORDER BY 4

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

**Expected Output: just one number is required.**

**Answer:**

SELECT

   COUNT(\*) AS tickets\_without\_boarding\_passes

 FROM TICKETS T

 LEFT JOIN

 BOARDING\_PASSES BP ON T.ticket\_no = BP.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 FLIGHTS\_DURATION AS

    (SELECT

     \*,

    CASE

        WHEN CAST(scheduled\_arrival AS TIME) >= CAST(scheduled\_departure AS TIME)

            THEN CAST(scheduled\_arrival AS TIME) - CAST(scheduled\_departure AS TIME)

        ELSE

            CAST(scheduled\_departure AS TIME) - CAST(scheduled\_arrival AS TIME)

    END AS scheduled\_duration

FROM

    FLIGHTS)

SELECT

   flight\_no,

   departure\_airport,

   arrival\_airport,

   aircraft\_code,

   MAX(scheduled\_duration) AS longest\_flight

FROM FLIGHTS\_DURATION

GROUP BY 1,2,3,4

HAVING MAX(scheduled\_duration) = '17:35:00'

ORDER BY 5 DESC

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,

   CAST(scheduled\_departure as TIME) as timings

 FROM FLIGHTS

 where

    CAST(scheduled\_departure as TIME) >= '06:00:00'

and CAST(scheduled\_departure as TIME) <= '11:00:00'

ORDER BY 5

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:**

SELECT

   flight\_id,

   flight\_no,

   scheduled\_departure,

   scheduled\_arrival,

   CAST(scheduled\_departure as TIME) as timings

 FROM FLIGHTS

 --assuming 2AM to 6 AM as Early Morning Flights

 where

    CAST(scheduled\_departure as TIME) >= '02:00:00'

and CAST(scheduled\_departure as TIME) <= '06:00:00'

ORDER BY 5

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) AS SEAT\_COUNT

 FROM SEATS

 GROUP BY 1,2

 ORDER BY 3

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

**Expected Output: Count of aircraft codes**

**Answer:**

SELECT

    COUNT(DISTINCT aircraft\_code) AS AIRCRAFT\_COUNT

 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 AIRPORTS A

 JOIN

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

 GROUP BY 1

 ORDER BY 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 AIRPORTS A

 JOIN

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

 GROUP BY 1

 ORDER BY COUNT(\*)

 LIMIT 1

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

    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,

     F.aircraft\_code,

     range

 FROM FLIGHTS F

 JOIN

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

 WHERE

    range BETWEEN '3000' AND '6000'

 GROUP BY 1,2,3

 ORDER BY 1

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

**Expected Output: Flight\_count**

**Answer:**

SELECT

     COUNT(\*) AS FLIGHTS\_COUNT

FROM FLIGHTS

WHERE

     (arrival\_airport = 'URS'AND departure\_airport = 'KUF')

OR   (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 FLIGHTS\_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:**

 SELECT

     departure\_airport,

     COUNT(\*) AS FLIGHTS\_COUNT

 FROM FLIGHTS

 WHERE

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

 GROUP BY 1

 ORDER BY 2

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,

     F.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

 ORDER BY 1

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

 FROM FLIGHTS F

 JOIN

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

 WHERE

    model LIKE '%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

 FROM FLIGHTS F

 JOIN

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

 WHERE

    model LIKE '%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 A.airport\_code = F.departure\_airport

 WHERE

    status = 'Cancelled'

GROUP BY 1

ORDER BY COUNT (\*) DESC

limit 1

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

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

**Answer:**

SELECT

     flight\_id,

     model

 FROM FLIGHTS F

 JOIN

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

 WHERE

    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 LAST\_FLIGHT AS (

    SELECT

departure\_airport,

DATE(scheduled\_departure) AS dep\_date,

MAX(scheduled\_departure) AS max\_dep\_time

    FROM FLIGHTS

    GROUP BY 1,2)

SELECT

    flight\_id,

    flight\_no,

    F.scheduled\_departure,

    F.departure\_airport

FROM FLIGHTS F

JOIN

LAST\_FLIGHT L ON F.departure\_airport = L.departure\_airport

AND DATE(F.scheduled\_departure) = L.dep\_date

AND F.scheduled\_departure = L.max\_dep\_time

ORDER BY 3

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(amount) AS total\_refund

FROM TICKETS AS T

JOIN

TICKET\_FLIGHTS AS TF ON T.ticket\_no = TF.ticket\_no

JOIN

FLIGHTS AS F ON TF.flight\_id = F.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 LAST\_FLIGHT AS (

    SELECT

departure\_airport,

DATE(scheduled\_departure) AS dep\_date,

MIN(scheduled\_departure) AS max\_dep\_time

    FROM FLIGHTS

    WHERE status = 'Cancelled'

    GROUP BY 1,2)

SELECT

    flight\_id,

    flight\_no,

    F.scheduled\_departure,

    F.departure\_airport

FROM FLIGHTS F

JOIN

LAST\_FLIGHT L ON F.departure\_airport = L.departure\_airport

AND DATE(F.scheduled\_departure) = L.dep\_date

AND F.scheduled\_departure = L.max\_dep\_time

ORDER BY 3

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 like '%Airbus%'

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

**Expected Output: Flight\_no, range**

**Answer:**

SELECT

    flight\_no,

    range

FROM AIRCRAFTS A

JOIN

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

where range = (select max(range) from AIRCRAFTS)

GROUP BY 1,2

ORDER BY 1