**Please note answers for the following questions are using Airline DB 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-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:** --ticket\_no, boarding\_no, seat\_number, passenger\_id, passenger\_name

SELECT

    bp.ticket\_no, boarding\_no, seat\_no as seat\_number, passenger\_id, passenger\_name

FROM boarding\_passes as bp

JOIN tickets as t ON bp.ticket\_no = t.ticket\_no

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

**Answer:** --Least allocated seat number

SELECT

    seat\_no

FROM

    (SELECT

        seat\_no,

        DENSE\_RANK() OVER (ORDER BY (COUNT (seat\_no)) ASC) as allocation\_frequency

    FROM boarding\_passes

    GROUP BY 1 ) as t1

WHERE allocation\_frequency = 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:** --month wise highest paying passenger name and passenger id.

SELECT

    MONTH\_NAME, passenger\_id, passenger\_name, total\_amount

FROM

    (SELECT \*, DENSE\_RANK() OVER (PARTITION BY MONTH\_NAME ORDER BY total\_amount DESC) as rnk

    FROM

        (SELECT

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

            passenger\_id,

            passenger\_name,

            SUM(total\_amount) as total\_amount

        FROM bookings b

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

        group by 1,2,3) T1) 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:** --month wise least paying passenger name and passenger id.

SELECT

    MONTH\_NAME, passenger\_id, passenger\_name, total\_amount

FROM

    (SELECT \*, DENSE\_RANK() OVER (PARTITION BY MONTH\_NAME ORDER BY total\_amount ASC) as rnk

    FROM

        (SELECT

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

            passenger\_id,

            passenger\_name,

            SUM(total\_amount) as total\_amount

        FROM bookings b

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

        group by 1,2,3) T1) T2

WHERE RNK = 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:** --travel details of the flights having return journey (more than 1 flight).

SELECT

    Passenger\_id, passenger\_name, t.ticket\_no as ticket\_number,

    COUNT( f.flight\_id) as flight\_count

FROM tickets t

JOIN ticket\_flights as f ON t.ticket\_no=f.ticket\_no

    GROUP BY 1,2,3

    HAVING COUNT( f.flight\_id) > 1

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

Expected Output: just one number is required.

**Answer:** --tickets without boarding passes in numbers

SELECT

    COUNT(t.ticket\_no)

FROM tickets as t

LEFT JOIN boarding\_passes as p ON t.ticket\_no = p.ticket\_no

WHERE p.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:** --Details of the longest flights (using flights table)

SELECT

    flight\_no, departure\_airport, arrival\_airport, aircraft\_code, duration

FROM

    (SELECT

        flight\_no, departure\_airport, arrival\_airport, aircraft\_code,

        scheduled\_arrival - scheduled\_departure as duration,

        DENSE\_RANK() OVER (ORDER BY (scheduled\_arrival - scheduled\_departure) DESC) as rnk

    FROM flights) t1

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:**  --Details of all the morning flights (morning means between 6AM to 11 AM, using flights table)

--Skillovilla team said timing means you should display as morning flight

SELECT \*

FROM

    (SELECT

        flight\_id, flight\_no as flight\_number, scheduled\_departure, scheduled\_arrival,

        CASE WHEN CAST(scheduled\_departure AS TIME) BETWEEN '06:00:00'AND '11:00:00'

    THEN 'Morning flight'

    ELSE NULL

    END AS Timings

    FROM flights) as t1

WHERE Timings IS NOT NULL

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:** --The earliest morning flight available from every airport.

WITH

    T1 as

    (SELECT

        flight\_id, flight\_no as flight\_number, scheduled\_departure, scheduled\_arrival, departure\_airport,

        CASE WHEN CAST(scheduled\_departure AS TIME) BETWEEN '06:00:00'AND '11:00:00'

    THEN 'Morning flight'

    ELSE NULL

    END AS Timings

    FROM flights),

    T3 as

    (SELECT \*,ROW\_NUMBER() OVER (PARTITION BY departure\_airport ORDER BY scheduled\_departure ASC) as rnk

    FROM

        (SELECT \*

        FROM T1

        WHERE Timings IS NOT NULL) as t2)

SELECT

    flight\_id, flight\_number, scheduled\_departure, scheduled\_arrival, departure\_airport, timings

FROM T3

WHERE rnk = 1

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

Expected Output: Airport\_code.

**Answer:**  --List of airport codes in Europe/Moscow timezone

SELECT

    Airport\_code, timezone

FROM airports

WHERE timezone like '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:** --Count of seats in various fare condition for every aircraft code

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:** --Aircrafts codes having at least one Business class seats

SELECT

    COUNT(Aircraft\_code) AS count\_of\_aircraft\_codes

FROM

    (SELECT

        Aircraft\_code, fare\_conditions, COUNT(seat\_no) as seat\_count

    FROM seats

    GROUP BY 1,2) T1

WHERE seat\_count >= 1 AND fare\_conditions = 'Business'

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

Expected Output : Airport\_name

**Answer:** --Name of the airport having maximum number of departure flight

WITH T1 as (

    SELECT

    airport\_name, departure\_airport, COUNT(flight\_id),

    DENSE\_RANK() OVER (ORDER BY (COUNT(flight\_id)) DESC) as drnk

FROM flights f

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

GROUP BY 1,2)

SELECT airport\_name

FROM T1

WHERE drnk = 1

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

Expected Output : Airport\_name

**Answer:** --name of the airport having least number of scheduled departure flights

WITH T1 as (

    SELECT

    airport\_name, departure\_airport, COUNT(flight\_id),

    DENSE\_RANK() OVER (ORDER BY (COUNT(flight\_id)) ASC) as drnk

FROM flights f

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

GROUP BY 1,2)

SELECT airport\_name

FROM T1

WHERE drnk = 1

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

Expected Output : Flight Count

**Answer:** --flights from DME airport dont have actual departure

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:** --flight ids having range between 3000 to 6000

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

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

Expected Output : Flight\_count

**Answer:** --query to get count of flights flying between URS and KUF

SELECT

    COUNT(DISTINCT 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 to get the count of flights flying from either from NOZ or KRR

SELECT

    COUNT(DISTINCT 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 to get the count of flights flying from KZN,DME,NBC,NJC,GDX,SGC

SELECT

    departure\_airport, COUNT(DISTINCT 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:** --Extract flight details having range between 3000 and 6000 and flying from DME

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'

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:** --List of flight ids from Airbus company and got cancelled or delayed

SELECT

    flight\_id, model as aircraft\_model

FROM flights f

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

WHERE  status IN ('Cancelled', 'Delayed')

   AND 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:** --list of flight ids using aircrafts from Boeing company and got cancelled or delayed

SELECT

    flight\_id, model as aircraft\_model

FROM flights f

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

WHERE status IN ( 'Cancelled','Delayed')

    AND model like '%Boeing%'

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

Expected Output : Airport\_name

**Answer:** --Which airport(name) has most cancelled flights (arriving)

SELECT

    airport\_name

FROM (SELECT

    airport\_name, DENSE\_RANK() OVER (ORDER BY (COUNT(DISTINCT flight\_id)) DESC) as drnk

FROM Airports a

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

WHERE status = 'Cancelled'

GROUP BY 1) as T1

WHERE drnk=1

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

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

**Answer:**  --flight ids which are using Airbus aircrafts

SELECT

    flight\_id,model as aircraft\_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:** --Date-wise last flight id flying from every airport

SELECT

    flight\_id, flight\_number, scheduled\_departure, departure\_airport

FROM

    (SELECT flight\_id, flight\_no as flight\_number, scheduled\_departure, departure\_airport,

        ROW\_NUMBER() OVER (PARTITION BY departure\_airport ORDER BY CAST(scheduled\_departure AS DATE) DESC) as rnk

        FROM flights) as 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:**  SELECT

    passenger\_name, sum(amount) as total\_refund

    from ticket\_flights tf

    join tickets t on tf.ticket\_no = t.ticket\_no

    full outer join flights 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:** --Date wise first cancelled flight id flying for every airport

WITH T1 as (SELECT

    flight\_id,flight\_no as flight\_number,scheduled\_departure,departure\_airport,

    ROW\_NUMBER() OVER (PARTITION BY departure\_airport ORDER BY CAST(scheduled\_departure AS DATE) ASC) as rnk

FROM flights

WHERE status = 'Cancelled')

SELECT

    flight\_id, flight\_number, scheduled\_departure, departure\_airport

FROM T1

WHERE rnk = 1

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

*Expected Output : Flight\_id*

**Answer:** --List of Airbus flight ids which got cancelled

SELECT

    flight\_id

FROM flights f

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

WHERE status = 'Cancelled'

    AND model LIKE '%Airbus%'

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

*Expected Output : Flight\_no, range*

**Answer:** --List of flight ids having highest range

WITH T1 AS

(SELECT

    flight\_id, range, dense\_rank() over (order by range desc) as drnk

FROM flights f

JOIN aircrafts a on f.aircraft\_code = a.aircraft\_code)

SELECT

    flight\_id, range

FROM T1

    WHERE drnk = 1