Attempt the following Questions-

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-mmmm-dd') as format_book_date,
total_amount
from BOOKINGS
```

2. **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

```
b.ticket_no,
b.boarding_no,
b.seat_no as seat_number,
t.passenger_id,
t.passenger_name
from boarding_passes as b
join tickets as t
on b.ticket_no = t.ticket_no
```

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

Answer: select

```
seat_no,
count(*) as seat_allocation
from seats
group by 1
order by 2
limit 1
```

4. ***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(B.book_date,'Mon-YY')as Month_name,
T.passenger_id,
T.passenger_name,
B.total_amount
from bookings B
join tickets T
on B.book_ref = T.book_ref
group by 1,2,3,4
order by 4 desc
```

5. ***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(B.book_date,'Mon-YY')as Month_name,
T.passenger_id,
T.passenger_name,
B.total_amount
from bookings B
 join tickets T
on B.book_ref = T.book_ref
group by 1,2,3,4
order by 4
```

6. **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:

```
select
    t.passenger_id,
    t.passenger_name,
    tf.ticket_no,
    count(tf.flight_id) as flight_count
    from tickets t
    join ticket_flights tf
    on t.ticket_no = tf.ticket_no
    group by 1,2,3
    having count(tf.flight_id) > 1
```

7. **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 b
```

```
ON t.ticket_no = b.ticket_no
WHERE b.ticket_no IS NULL
```

8. **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,
    TIMESTAMPDIFF(HOUR, departure_time, arrival_time) AS duration
FROM
    flights
ORDER BY
    duration DESC
LIMIT 1
```

9. **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,
    CASE
        WHEN EXTRACT(HOUR FROM scheduled_departure) >= 6 AND
        EXTRACT(HOUR FROM scheduled_departure) < 12 THEN 'Morning'
```

```
            ELSE 'Not Morning'
        END AS timings
    FROM flights
    WHERE EXTRACT(HOUR FROM scheduled_departure) >= 6 AND
    EXTRACT(HOUR FROM scheduled_departure) < 12
```

10. **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:

```
WITH earliest_morning_flights AS (
    SELECT
        flight_id,
        flight_no,
        scheduled_departure,
        scheduled_arrival,
        departure_airport,
    ROW_NUMBER() OVER (PARTITION BY departure_airport ORDER BY scheduled_departure) AS rn
  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,
```

'Early Morning' AS timings

FROM earliest_morning_flights

WHERE rn = 1

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

Expected Output: Airport_code.

Answer: select

airport_code

from airports

where timezone ='Europe/Moscow'

12. **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(*) as seat_count

from seats

group by 1,2

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

Expected Output : Count of aircraft codes

Answer: select

count(Aircraft_code) as count_of_aircraft_codes

from seats

where fare_conditions ='Business'

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

Expected Output : Airport_name

Answer: SELECT

airport_name

FROM airports

WHERE airport_code = (

SELECT

departure_airport

FROM

flights

GROUP BY

departure_airport

ORDER BY

COUNT(*) DESC

LIMIT 1

)

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

Expected Output : Airport_name

Answer: SELECT

airport_name

FROM airports

WHERE

airport_code = (

SELECT

departure_airport

FROM

flights

```
    GROUP BY
        departure_airport
    ORDER BY
        COUNT(*) ASC
    LIMIT 1
)
```

16. **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
```

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

Expected Output : Flight_Number , aircraft_code, ranges

Answer:
```
SELECT
    flight_no as Flight_number,
    aircraft_code,
    CONCAT(MIN(flight_id), '-', MAX(flight_id)) AS ranges
FROM
    flights
WHERE
    flight_id BETWEEN 3000 AND 6000
GROUP BY
    flight_no,
    aircraft_code
```

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

Expected Output : Flight_count

Answer: SELECT

COUNT(*) AS Flight_count

FROM flights

WHERE departure_airport = 'URS' AND

arrival_airport = 'KUF'

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

Expected Output : Flight count

Answer: SELECT

COUNT(*) AS Flight_count

FROM flights

WHERE departure_airport IN ('NOZ', 'KRR')

20. **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 flight_count

FROM

flights

WHERE

departure_airport IN ('KZN', 'DME', 'NBC', 'NJC', 'GDX', 'SGC', 'VKO', 'ROV')

GROUP BY

departure_airport

21. **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,

aircraft_code,

CONCAT(MIN(flight_id), '-', MAX(flight_id)) AS range,

departure_airport

FROM

flights

WHERE

flight_id BETWEEN 3000 AND 6000

AND departure_airport = 'DME'

GROUP BY

flight_no,

aircraft_code,

departure_airport

22. **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,

a.model as aircraft_model

FROM

flights f

JOIN

aircrafts a

```
    ON f.aircraft_code = a.aircraft_code
WHERE
    a.model = 'Airbus'
    AND (f.status = 'Cancelled' OR f.status = 'Delayed')
```

23. **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,
    a.model as Aircraft_model
FROM
    flights f
JOIN
    aircrafts a
    ON f.aircraft_code = a.aircraft_code
WHERE
    a.model like 'Boeing'
    AND (f.status = 'Cancelled' OR
     f.status = 'Delayed')
```

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

Expected Output : Airport_name.

Answer:

```
SELECT
    airport_name
FROM
    airports
WHERE
    airport_code IN (
```

```
        SELECT
            arrival_airport
        FROM
            flights
        WHERE
            status = 'Cancelled'
    )
GROUP BY
    airport_name
ORDER BY
    COUNT(*) DESC
LIMIT 1
```

25. ***Identify flight ids which are using "Airbus aircrafts"***

Expected Output : Flight_id,aircraft_model

Answer:

```
select
  f.flight_id,
  a.model as aircraft_model
from flights f
join aircrafts a
on f.aircraft_code = a.aircraft_code
where  a.model like 'Airbus'
```

26. ***Identify date-wise last flight id flying from every airport?***

Expected Output: Flight_id,flight_number,schedule_departure,departure_airport

Answer:

```
SELECT
    f.flight_id,
    f.flight_no,
    f.scheduled_departure,
```

```
    f.departure_airport
FROM
    flights f
JOIN (
    SELECT
        departure_airport,
        MAX(scheduled_departure) AS max_departure
    FROM
        flights
    GROUP BY
        departure_airport
) AS max_dep
 ON f.departure_airport = max_dep.departure_airport AND
  f.scheduled_departure = max_dep.max_departure
```

27. ***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:

28. ***Identify date wise first cancelled flight id flying for every airport?***

Expected Output : Flight_id,flight_number,schedule_departure,departure_airport

Answer:

```
SELECT
    f.flight_id,
    f.flight_no,
    f.scheduled_departure,
    f.departure_airport
FROM
    flights f
```

```
JOIN (
    SELECT
        departure_airport,
        MIN(scheduled_departure) AS min_departure
    FROM
        flights
    WHERE
        status = 'Cancelled'
    GROUP BY
        departure_airport
) AS min_dep
ON f.departure_airport = min_dep.departure_airport AND
f.scheduled_departure = min_dep.min_departure
```

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

Expected Output : Flight_id

Answer:

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

Expected Output : Flight_id, range

```
SELECT
    flight_id,
    CONCAT(MIN(flight_id), '-', MAX(flight_id)) AS range
FROM
    flights
GROUP BY
    flight_id
ORDER BY
    (MAX(flight_id) - MIN(flight_id)) DESC
LIMIT 1
```