SQL Capestone Project

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*

**Query:**  select book\_ref, to\_char(book\_date, 'yyyy-mon-dd')as 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.

**Query:**select bp.ticket\_no, bp.boarding\_no, bp.seat\_no, t.passenger\_id, t.passenger\_name

  from boarding\_passes bp join tickets t on

  bp.ticket\_no = t.ticket\_no

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

**Query:**

select seat\_no

from boarding\_passes

group by 1

order by count(\*) asc

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

**Query:**

with t1 as(

select to\_char(b.book\_date, 'mon-yy')as month\_name, t.passenger\_id, t.passenger\_name, b.total\_amount

from tickets t inner join bookings b on

b.book\_ref = t.book\_ref),

t2 as(

select \*, dense\_rank() over(partition by month\_name order by total\_amount desc)as rnk

from t1)

select month\_name, passenger\_id, passenger\_name, total\_amount from t2

where rnk =1

**Note: if need single value use row\_number function instead of dense\_rank**

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

**Query:**

with t1 as(

select to\_char(b.book\_date, 'mon-yy')as month\_name, t.passenger\_id, t.passenger\_name, b.total\_amount

from tickets t inner join bookings b on

b.book\_ref = t.book\_ref),

t2 as(

select \*, dense\_rank() over(partition by month\_name order by total\_amount asc)as rnk

from t1)

select month\_name, passenger\_id, passenger\_name, total\_amount from t2

where rnk =1

**Note: if need single value use row\_number function instead of dense\_rank**

**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.

**Query:**

select t.passenger\_id, t.passenger\_name, tf.ticket\_no as ticket\_number, count(tf.flight\_id) as flight\_count

from tickets t inner join ticket\_flights tf on

tf.ticket\_no = t.ticket\_no

group by 1,2,3

having count (flight\_id)>1

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

Expected Output: just one number is required.

**Query:**

select count(\*)

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.

**Query:**

with t1 as(

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

((scheduled\_arrival)-(scheduled\_departure)) as duration

from flights),

t2 as(

    select \*, dense\_rank() over(order by duration desc)as longest\_flight

    from t1)

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

from t2

where longest\_flight = 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.

**Query:**

with t1 as (SELECT

    flight\_id,

    flight\_no AS flight\_number,

    scheduled\_departure,

    to\_char(scheduled\_departure,'HH24:MI:SS') as departure\_time,

    scheduled\_arrival,

    TO\_CHAR(scheduled\_departure, 'HH24:MI') || ' - ' || TO\_CHAR(scheduled\_arrival, 'HH24:MI') AS timings

FROM

    FLIGHTS)

select flight\_id, flight\_number, scheduled\_departure, scheduled\_arrival, timings from t1

where  departure\_time between '06:00:00' and '11:00:00'

order by 3 asc

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.

**Query:**

with t1 as (SELECT

    flight\_id,

    flight\_no AS flight\_number,

    scheduled\_departure,departure\_airport,

    to\_char(scheduled\_departure,'HH24:MI:SS') as departure\_time,

    scheduled\_arrival,

    TO\_CHAR(scheduled\_departure, 'HH24:MI') || ' - ' || TO\_CHAR(scheduled\_arrival, 'HH24:MI') AS timings

FROM

    FLIGHTS),

t2 as(

    select \*, dense\_rank() over(partition by departure\_airport order by departure\_time asc) as rnk

    from t1)

select flight\_id, flight\_number, scheduled\_departure, scheduled\_arrival, departure\_airport, timings from t2

where  departure\_time between '02:00:00' and '06:00:00' and rnk=1

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

Expected Output:  Airport\_code.

**Query:**

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

**Query:**

select aircraft\_code, fare\_conditions, count(seat\_no)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

**Query:**

select count(aircraft\_code) from seats

where fare\_conditions = 'Business'

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

Expected Output : Airport\_name

**Query:**

with cte as(

select a.airport\_name, count(f.departure\_airport)

from flights f inner join airports a on

f.departure\_airport = a.airport\_code

group by 1

order by 2 desc)

select airport\_name from cte

limit 1

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

Expected Output : Airport\_name

**Query:**

select a.airport\_name, count(f.departure\_airport)

from flights f inner join airports a on

f.departure\_airport = a.airport\_code

group by 1

order by 2 asc

limit 1

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

 Expected Output : Flight Count

**Query:**

select count(departure\_airport)

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

**Query:**

select \* from

(select f.flight\_id, a.aircraft\_code, a.range as ranges

from flights f inner join aircrafts a on

f.aircraft\_code = a.aircraft\_code)a

where ranges between 3000 and 6000

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

Expected Output : Flight\_count

**Query:**

select count(flight\_id)

from flights

where departure\_airport IN ('URS', 'KUF') and arrival\_airport IN ('URS', 'KUF')

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

Expected Output : Flight\_count

**Query:**

select count(flight\_id)

from flights

where departure\_airport = 'NOZ' or departure\_airport = '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.

**Query:**

select departure\_airport, count(flight\_id)

from flights

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

group by 1

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

**Query:**

select f.Flight\_no, f.aircraft\_code, a.range, f.departure\_airport

from flights f inner join aircrafts a on

f.aircraft\_code = a.aircraft\_code

where range between 3000 and 6000 and

departure\_airport = 'DME'

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

**Query:**

select f.flight\_id, a.model

from flights f inner join aircrafts a on

f.aircraft\_code = a.aircraft\_code

where model like '%Airbus%' and

status in ('Cancelled','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

**Query:**

select f.flight\_id, a.model

from flights f inner join aircrafts a on

f.aircraft\_code = a.aircraft\_code

where model like '%Boeing%' and

status in ('Cancelled','Delayed')

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

Expected Output : Airport\_name.

**Query:**

with cte as(

select a.airport\_name as Airport\_name, count(f.status),

dense\_rank() over(order by count(f.status) desc) as rnk

from flights f inner join airports a on

a.airport\_code = f.arrival\_airport

where status = 'Cancelled'

group by 1

order by 2 desc)

select Airport\_name from cte

where rnk=1

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

Expected Output : Flight\_id,aircraft\_model

**Query:**

select f.flight\_id, a.model as aircraft\_model

from flights f inner join aircrafts a on

f.aircraft\_code = a.aircraft\_code

where model like '%Airbus%'

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

Expected Output: Flight\_id,flight\_number,schedule\_departure,departure\_airport

**Query:**

with t1 as(

select flight\_id, flight\_no, scheduled\_departure, departure\_airport,

dense\_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 t1 where rnk = 1

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

**Query:**

select t.Passenger\_name, sum(tf.amount)as total\_refund

from ticket\_flights tf inner join tickets t on

tf.ticket\_no = t.ticket\_no inner join flights f on

f.flight\_id = tf.flight\_id

where f.status = 'Cancelled'

group by 1

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

Expected Output : Flight\_id,flight\_number,schedule\_departure,departure\_airport

**Query:**

with t1 as(

select Flight\_id, flight\_no, scheduled\_departure, departure\_airport, status,

dense\_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 t1 where rnk = 1

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

Expected Output : Flight\_id

**Query:**

select f.flight\_id

from flights f inner join aircrafts a on

f.aircraft\_code = a.aircraft\_code

where a.model like '%Airbus%' and

f.status = 'Cancelled'

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

Expected Output : Flight\_id, range

**Query:**

select flight\_id, range

from(

select f.flight\_id, range,

rank()over(order by range desc) as ranking

from flights f inner join aircrafts a on

f.aircraft\_code = a.aircraft\_code

)as table1

where ranking =1