**Capstone Project - Airline db**

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

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

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

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

Answer:

with t1 as(select

seat\_no,

count(seat\_no),

dense\_rank() over(order by count(seat\_no) asc) as rnk

from boarding\_passes

group by 1)

select

seat\_no

from t1

where rnk =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:

with t1 as (select

to\_char(book\_date,'mmm-yy') as Month\_name,

passenger\_id,

passenger\_name,

total\_amount

from bookings b

join tickets t

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

t2 as(

select

\*,

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

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:

with t1 as (select

to\_char(book\_date,'mmm-yy') as Month\_name,

passenger\_id,

passenger\_name,

total\_amount

from bookings b

join tickets t

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

t2 as(

select

\*,

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

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

Passenger\_id,

passenger\_name,

t.ticket\_no,

count(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(flight\_id)>1

7. How many tickets are there without boarding passes?

Expected Output: just one number is required.

Answer:

select

count(distinct ticket\_no) as tickets\_without\_boarding\_pass

from boarding\_passes

where boarding\_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:

with t1 as (select

distinct flight\_no,

departure\_airport,

arrival\_airport,

aircraft\_code,

(actual\_arrival-actual\_departure) as duration

from flights

where (actual\_arrival-actual\_departure) is not null

),

t2 as(

select

\*,

rank() over(order by duration desc) as rnk

from t1

)

select

flight\_no,

departure\_airport,

arrival\_airport,

aircraft\_code,

duration

from t2

where rnk =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,

to\_char(scheduled\_departure,'HH:MI AM') as timings

from flights

where

extract(hour from scheduled\_departure)>= 6

and extract(hour from scheduled\_departure)<11

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:

select

flight\_id,

flight\_no,

scheduled\_departure,

scheduled\_arrival,

departure\_airport,

to\_char(scheduled\_departure,'HH:MI AM') as timings

from flights

where

extract(hour from scheduled\_departure)>= 2

and extract(hour from scheduled\_departure)<6

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(seat\_no) as seat\_no

from seats

group by 1,2

order by 1

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

Expected Output : Count of aircraft codes

Answer:

select

count(distinct 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

Answer:

select

airport\_name

from airports a

join flights s

on a.airport\_code=s.departure\_airport

group by 1

order by count(flight\_id) 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 a

join flights s

on a.airport\_code=s.departure\_airport

group by 1

order by count(flight\_id) asc

limit 1

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

Expected Output : Flight Count

Answer:

select

count(distinct flight\_id) 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

distinct Flight\_no,

a.aircraft\_code,

range

from aircrafts a

join flights f

on a.aircraft\_code=f.aircraft\_code

where range between 3000 and 6000

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

Expected Output : Flight\_count

Answer:

select

count(distinct flight\_id) as flight\_count

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

Answer:

select

count(distinct flight\_id) 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(distinct 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

Answer:

select

distinct flight\_no,

f.aircraft\_code,

range,

departure\_airport

from aircrafts a

join flights f

on a.aircraft\_code=f.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

Answer:

select

flight\_id,

model

from flights s

join aircrafts a

on s.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

Answer:

select

flight\_id,

model

from flights s

join aircrafts a

on s.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.

Answer:

with t1 as (select

Airport\_name,

count(Flight\_id),

rank() over(order by count(Flight\_id) desc) as rnk

from Airports a

join Flights f

on a.Airport\_code=f.arrival\_airport

where status ='Cancelled'

group by 1)

select

Airport\_name

from t1

where rnk=1

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

Expected Output : Flight\_id,aircraft\_model

Answer:

select

flight\_id,

model as aircraft\_model

from aircrafts a

join flights f

on a.aircraft\_code=f.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

Answer:

with t1 as (select

flight\_id,

flight\_no,

scheduled\_departure,

row\_number() over(partition by date(scheduled\_departure) order by scheduled\_departure desc) as rnk,

departure\_airport

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.

Answer:

select

passenger\_name,

sum(amount) as total\_refund

from flights f

join ticket\_flights tf

on f.flight\_id = tf.flight\_id

join tickets t

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

where 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

Answer:

with t1 as (select

flight\_id,

flight\_no,

scheduled\_departure,

row\_number() over(partition by date(scheduled\_departure) order by scheduled\_departure asc) as rnk,

departure\_airport

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

Answer:

select

flight\_id

from flights f

join aircrafts a

on f.aircraft\_code=a.aircraft\_code

where status = 'Cancelled' and model like '%Airbus%'

30. Identify list of flight ids having highest range.

Expected Output : Flight\_id, range

Answer:

with t1 as(select

distinct flight\_id,

range,

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

from flights f

join aircrafts a

on f.aircraft\_code=a.aircraft\_code

)

select

flight\_id,

range

from t1

where rnk = 1