**Please answer the following questions using Airline DB database.**

**Write your answers(query) in the answer and submit it. To write the answer in the assignment, please follow the below example in yellow**

Example:

Questions*: Extract all the columns of the flights table*

Answer: *SELECT \* FROM flights*

**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-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:**

**select**

**b.ticket\_no,**

**b.boarding\_no,**

**b.seat\_no as seat\_number,**

**passenger\_id,**

**passenger\_name**

**from BOARDING\_PASSES b**

**join tickets t on**

**t.ticket\_no = b.ticket\_no**

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

**Answer:**

**with t1 as(**

**select**

**seat\_no,**

**count(\*) as allocation\_count,**

**dense\_rank()over(order by count(\*)) as ranked**

**from BOARDING\_PASSES b**

**group by 1**

**order by 2 asc**

**)**

**select seat\_no**

**from t1**

**where ranked = 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:**

***with t1 as(***

***select***

***to\_char(b.book\_date,'mmm-yy') as month\_name,***

***passenger\_id,***

***passenger\_name,***

***total\_amount,***

***dense\_rank()over(partition by to\_char(b.book\_date,'mmm-yy') order by total\_amount desc) as R***

***from tickets t***

***join bookings b on b.book\_ref = t.book\_ref***

***)***

***select***

***month\_name,***

***passenger\_id,***

***passenger\_name,***

***total\_amount***

***from t1***

***where R = 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:**

**with t1 as(**

**select**

**to\_char(b.book\_date,'mmm-yy') as month\_name,**

**passenger\_id,**

**passenger\_name,**

**total\_amount,**

**dense\_rank()over(partition by to\_char(b.book\_date,'mmm-yy') order by total\_amount asc) as R**

**from tickets t**

**join bookings b on b.book\_ref = t.book\_ref**

**)**

**select**

**month\_name,**

**passenger\_id,**

**passenger\_name,**

**total\_amount**

**from t1**

**where R = 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(tf.flight\_id) as flight\_count**

**from tickets t**

**join ticket\_flights tf on tf.ticket\_no = t.ticket\_no**

**join flights f on f.flight\_id = tf.flight\_id**

**group by 1,2,3**

**HAVING count(tf.flight\_id) > 1**

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

Expected Output: just one number is required.

**Answer:**

**select**

**count(t.ticket\_no) as tickets\_without\_boarding\_passes**

**from tickets t**

**left join BOARDING\_PASSES b on**

**b.ticket\_no = t.ticket\_no**

**where b.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:**

**with t1 as**

**(**

**select**

**flight\_no,**

**departure\_airport,**

**arrival\_airport,**

**aircraft\_code,**

**(scheduled\_arrival-scheduled\_departure) as durations,**

**dense\_rank()over(order by scheduled\_arrival-scheduled\_departure desc) as R**

**from flights**

**order by 5 desc**

**)**

**select**

**flight\_no,**

**departure\_airport,**

**arrival\_airport,**

**aircraft\_code,**

**durations**

**from t1**

**where R = 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:**

**SELECT**

**flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**scheduled\_arrival,**

**EXTRACT(EPOCH FROM (scheduled\_arrival - scheduled\_departure)) / 60 AS timings**

**FROM flights**

**WHERE EXTRACT(HOUR FROM scheduled\_departure) >= 6**

**AND EXTRACT(HOUR FROM scheduled\_departure) < 11;**

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

f1.flight\_id,

f1.flight\_no,

f1.scheduled\_departure,

f1.scheduled\_arrival,

f1.departure\_airport,

EXTRACT(EPOCH FROM (f1.scheduled\_arrival - f1.scheduled\_departure)) / 60 AS timings

FROM flights f1

INNER JOIN (

SELECT

departure\_airport,

MIN(scheduled\_departure) AS earliest\_departure

FROM flights

WHERE EXTRACT(HOUR FROM scheduled\_departure) >= 2

AND EXTRACT(HOUR FROM scheduled\_departure) < 6

GROUP BY departure\_airport

) f2 ON f1.departure\_airport = f2.departure\_airport

AND f1.scheduled\_departure = f2.earliest\_departure;

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 2,1**

**order by 2**

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

Expected Output : Count of aircraft codes

**Answer:**

**with t1 as(**

**select**

**aircraft\_code,**

**count(seat\_no)**

**from seats**

**where fare\_conditions = 'Business'**

**group by 1**

**)**

**select**

**count(aircraft\_code)**

**from t1**

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

Expected Output : Airport\_name

**Answer:**

**with t1 as**

**(**

**select**

**Airport\_name,**

**count(departure\_airport)**

**from flights f**

**join airports a on**

**f.departure\_airport = a.airport\_code**

**group by departure\_airport,Airport\_name**

**order by count(departure\_airport) desc**

**limit 1**

**)**

**select**

**Airport\_name**

**from t1**

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

Expected Output : Airport\_name

**Answer:**

**with t1 as**

**(**

**select**

**Airport\_name,**

**count(departure\_airport)**

**from flights f**

**join airports a on**

**f.departure\_airport = a.airport\_code**

**group by departure\_airport,Airport\_name**

**order by count(departure\_airport) asc**

**limit 1**

**)**

**select**

**Airport\_name**

**from t1**

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 as flight\_number,

f.aircraft\_code,

range as ranges

from aircrafts a

join flights f 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:**

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:**

**select**

**count(\*) 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:**

**select**

**departure\_airport,**

**count(\*) as count\_of\_flights**

**from flights**

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

**group by departure\_airport**

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**

**a.aircraft\_code = f.aircraft\_code**

**where departure\_airport = 'DME' and range between 3000 and 6000**

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 as aircraft\_model**

**from flights f**

**join aircrafts a on**

**a.aircraft\_code = f.aircraft\_code**

**where model like '%Airbus%' and status in ('Cancelled','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 as aircraft\_model**

**from flights f**

**join aircrafts a on**

**a.aircraft\_code = f.aircraft\_code**

**where model like '%Boeing%' and status in ('Cancelled','Delayed')**

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

Expected Output : Airport\_name

**with t1 as**

**(**

**select**

**Airport\_name,**

**count(arrival\_airport),**

**dense\_rank()over(order by count(arrival\_airport) desc) as R**

**from flights f**

**join airports a on**

**a.airport\_code = f.arrival\_airport**

**where status = 'Cancelled'**

**group by arrival\_airport,Airport\_name**

**order by count(arrival\_airport) desc**

**)**

**select**

**Airport\_name**

**from t1**

**where R = 1**

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

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

**Answer:**

select

Flight\_id,

model as aircraft\_model

from flights f

join aircrafts a on

a.aircraft\_code = f.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 t1 as**

**(**

**select**

**Flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**departure\_airport,**

**dense\_rank()over(partition by departure\_airport order by scheduled\_departure desc) as r**

**from flights**

**)**

**select**

**Flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**departure\_airport**

**from t1**

**where r = 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(tf.amount) as total\_refund**

**from tickets t**

**full outer join ticket\_flights tf on**

**tf.ticket\_no = t.ticket\_no**

**full outer join flights f on**

**f.flight\_id = tf.flight\_id**

**full outer join bookings b on**

**b.book\_ref = t.book\_ref**

**where f.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 t1 as

(

select

Flight\_id,

flight\_no,

scheduled\_departure,

departure\_airport,

dense\_rank()over(partition by departure\_airport order by scheduled\_departure asc) as r

from flights

where status = 'Cancelled'

)

select

Flight\_id,

flight\_no as flight\_number,

scheduled\_departure,

departure\_airport

from t1

where r = 1

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

*Expected Output : Flight\_id*

**Answer:**

**select**

**Flight\_id**

**from flights f**

**join AIRCRAFTS a 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:**

**with t1 as**

**(**

**select**

**flight\_no,**

**range,**

**rank()over(order by range desc) as R**

**from aircrafts a**

**join flights f on**

**f.aircraft\_code = a.aircraft\_code**

**order by range desc**

**)**

**select**

**flight\_no,**

**range**

**from t1**

**where R = 1**