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

**Instruction to attempt questions:**

* Students need to write queries for the questions mentioned in the using Airline DB database
* Read the questions carefully before writing the query in **Airline Playground** (in the Playground chapter of SQL)
* Airline DB: [https://www.skillovilla.com/playground/sql?exerciseId=0181e251-6ea8-4595-ae2b-0c690119f8db](•%09https:/www.skillovilla.com/playground/sql?exerciseId=0181e251-6ea8-4595-ae2b-0c690119f8db)

**How to submit the capstone:**

* Copy the SQL query code and paste it in the answer section in this file.
* Once the assignment is done, submit the file over LMS.

**Invalid Submissions:**

* Pasting pictures of the code as answer is **NOT** acceptable.
* Uploading output data (CSVs) of the SQL queries is **NOT** acceptable.

**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-Mon-DD') book\_date\_new,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,t.passenger\_id,t.passenger\_name**

**from Boarding\_passes b join Tickets t**

**on b.ticket\_no=t.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(seat\_no) Nos**

**from Boarding\_passes**

**group by 1**

**order by 2**

**),t2 as**

**(**

**select \*,rank()over(order by Nos)**

**from t1**

**)**

**select seat\_no**

**from t2**

**where rank = 1**

**Note : Multiple seats having same counter no so ranking is used to extract all the least allocated seats**

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,'Mon-yy') months,t.passenger\_id,t.passenger\_name,sum(b.total\_amount) total\_amount**

**from tickets t join bookings b**

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

**group by 1,2,3**

**),t2 as**

**(**

**select \*,dense\_rank()over(partition by months order by total\_amount desc)**

**from t1**

**)**

**select months,passenger\_id,passenger\_name**

**from t2**

**where dense\_rank = 1**

**order by total\_amount desc**

**Note: ranking is used to extract all the** **highest paying passenger name and passenger id**

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,'Mon-yy') months,t.passenger\_id,t.passenger\_name,sum(b.total\_amount) total\_amount**

**from tickets t join bookings b**

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

**group by 1,2,3**

**),t2 as**

**(**

**select \*,dense\_rank()over(partition by months order by total\_amount )**

**from t1**

**)**

**select months,passenger\_id,passenger\_name**

**from t2**

**where dense\_rank = 1**

**order by total\_amount**

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:** **with t1  as**

**(**

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

**from tickets t join TICKET\_FLIGHTS Tf**

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

**group by 1,2,3**

**)**

**select \***

**from t1**

**where flights\_count  > 1**

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

Expected Output: just one number is required.

**Answer: select count(distinct(t.ticket\_no))**

**from tickets t left join BOARDING\_PASSES bp**

**on t.ticket\_no=bp.ticket\_no**

**where boarding\_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 durations,**

**rank()over(order by scheduled\_arrival-scheduled\_departure desc)**

**from flights**

**group by 1,2,3,4,5**

**)**

**select Flight\_no,departure\_airport,arrival\_airport,aircraft\_code,durations**

**from t1**

**where rank =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,**

**TO\_CHAR(scheduled\_departure, 'HH24:MI') AS departure\_time**

**FROM**

**Flights**

**WHERE**

**EXTRACT(HOUR FROM scheduled\_departure) BETWEEN 6 AND 11**

**order by departure\_time**

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:** **with t1 as (**

**SELECT**

**flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**scheduled\_arrival,**

**departure\_airport,**

**TO\_CHAR(scheduled\_departure, 'HH24:MI') AS timings**

**FROM**

**Flights**

**),t2 as**

**(**

**SELECT \*,rank()over(partition by extract (day from scheduled\_departure ),departure\_airport order by scheduled\_departure )**

**from t1**

**)**

**select \***

**from t2**

**where rank = 1**

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) seat\_count**

**from seats**

**group by 1,2**

**order by fare\_conditions,seat\_count desc , aircraft\_code**

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

Expected Output : Count of aircraft codes

**Answer:** **select count(distinct(aircraft\_code)) aircraft\_count**

**from seats**

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

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(\*)**

**from flights f join airports a**

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

**group by 1**

**order by 2 desc**

**)**

**select airport\_name from t1**

**limit 1**

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(\*)**

**from flights f join airports a**

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

**group by 1**

**order by 2**

**)**

**select airport\_name from t1**

**limit 1**

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

Expected Output : Flight Count

**Answer:** **select  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 f.flight\_no,a.aircraft\_code,a.range**

**from flights f join AIRCRAFTS a**

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

**where a.range between 3000 and 6000**

**group by 1,2,3**

**order by range ,flight\_no**

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

Expected Output : Flight\_count

**Answer:** **select count(\*) flight\_count**

**from flights**

**where (departure\_airport ='URS' and arrival\_airport ='KUF') or (departure\_airport ='KUF' and arrival\_airport ='URS')**

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

Expected Output : Flight count

**Answer:** **select count(\*) 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(\*) flight\_count**

**from flights**

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

**group by 1**

**order by 2 desc**

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 f.flight\_no,a.aircraft\_code,a.range,f.departure\_airport**

**from FLIGHTS f join AIRCRAFTS a**

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

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

**group by 1,2,3,4**

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 f.flight\_id,a.model**

**from FLIGHTS f join AIRCRAFTS a**

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

**where f.status in  ('Cancelled','Delayed') and a.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:** **select f.flight\_id,a.model**

**from FLIGHTS f join AIRCRAFTS a**

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

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

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

Expected Output : Airport\_name

**Answer:   select a.airport\_code**

**from FLIGHTS f join airports a**

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

**where f.status = 'Cancelled'**

**group by 1**

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

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

**Answer:** **select f.flight\_id,a.model**

**from FLIGHTS f join AIRCRAFTS a**

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

**where a.model like '%Airbus%'**

**group by 1,2**

**order by 1**

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

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

**Answer:** **SELECT**

**flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**departure\_airport**

**FROM**

**Flights**

**WHERE**

**(scheduled\_departure, departure\_airport) IN (**

**SELECT**

**MAX(scheduled\_departure),**

**departure\_airport**

**FROM**

**Flights**

**GROUP BY**

**departure\_airport,**

**DATE(scheduled\_departure)**

**)**

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  t.passenger\_id,sum(b.total\_amount)**

**from flights f left join TICKET\_FLIGHTS tf**

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

**left join tickets t**

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

**left join bookings b**

**on t.book\_ref=b.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: SELECT**

**flight\_id,**

**flight\_no,**

**scheduled\_departure,**

**departure\_airport**

**FROM**

**Flights**

**WHERE**

**(scheduled\_departure, departure\_airport,status) IN (**

**SELECT**

**min(scheduled\_departure),**

**departure\_airport ,'Cancelled'**

**FROM**

**Flights**

**GROUP BY**

**departure\_airport,**

**DATE(scheduled\_departure)**

**)**

**order by scheduled\_departure**

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

*Expected Output : Flight\_id*

**Answer:** **select f.flight\_id**

**from FLIGHTS f join AIRCRAFTS a**

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

**where a.model like '%Airbus%' and f.status = 'Cancelled'**

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

*Expected Output : Flight\_no, range*

**Answer:** **select f.flight\_id,a.range**

**from FLIGHTS f join AIRCRAFTS a**

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

**group by 1,2**

**order by 2 des**