**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,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**

**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;**

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

**Answer:**

**with cte as**

**(SELECT**

**seat\_no,count(\*)**

**FROM boarding\_passes**

**GROUP BY 1**

**ORDER BY 2)**

**SELECT seat\_no**

**FROM cte**

**LIMIT 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 cte as**

**(SELECT**

**TO\_CHAR(b.book\_date,'Mon-yy')month\_name,**

**t.passenger\_id,t.passenger\_name,b.total\_amount,**

**row\_number()over(partition by TO\_CHAR(book\_date,'Mon-yy')order by total\_amount DESC) rnk**

**FROM bookings b join tickets t**

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

**SELECT**

**month\_name,passenger\_id,passenger\_name,total\_amount**

**FROM cte**

**where rnk=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 cte as**

**(SELECT**

**TO\_CHAR(b.book\_date,'Mon-yy')month\_name,**

**t.passenger\_id,t.passenger\_name,b.total\_amount,**

**row\_number()over(partition by TO\_CHAR(book\_date,'Mon-yy')order by total\_amount ) rnk**

**FROM bookings b join tickets t**

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

**SELECT**

**month\_name,passenger\_id,passenger\_name,total\_amount**

**FROM cte**

**where rnk=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**

**t.passenger\_id,t.passenger\_name,t.ticket\_no,count(ft.flight\_id) flight\_count**

**FROM tickets t join ticket\_flights ft**

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

**group by 1,2,3**

**having count(ft.flight\_id)>1;**

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

Expected Output: just one number is required.

**Answer:**

**SELECT**

**count(\*) ticket\_without\_boarding\_pass**

**from tickets t  full join boarding\_passes bp**

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

**WHERE bp.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:**

**SELECT**

**flight\_no,departure\_airport,arrival\_airport,aircraft\_code,**

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

**from flights**

**order by 5 desc**

**limit 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,**

**CAST(scheduled\_departure AS time) timings**

**FROM flights**

**WHERE CAST(scheduled\_departure AS time) BETWEEN '06:00:00' AND'11:00:00';**

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 cte as(**

**SELECT**

**flight\_id,flight\_no,**

**scheduled\_departure,scheduled\_arrival,departure\_airport,**

**CAST(scheduled\_departure AS time) timings,**

**row\_number()over(partition by departure\_airport order by CAST(scheduled\_departure AS time) )rnk**

**FROM flights**

**WHERE CAST(scheduled\_departure AS time) BETWEEN '06:00:00' AND'11:00:00'**

**)**

**SELECT**

**flight\_id,flight\_no,**

**scheduled\_departure,scheduled\_arrival,**

**departure\_airport,timings**

**FROM cte**

**WHERE rnk=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\_count**

**from seats**

**group by 1,2;**

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

Expected Output : Count of aircraft codes

**Answer:**

**SELECT**

**count(distinct aircraft\_code) count\_of\_aircraft\_codes**

**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 cte as (SELECT**

**airport\_name ,count(\*)**

**from airports a join flights f**

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

**group by 1**

**order by 2 desc)**

**SELECT airport\_name from cte**

**limit 1;**

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

Expected Output : Airport\_name

**Answer:**

**with cte as (SELECT**

**airport\_name ,count(\*)**

**from airports a join flights f**

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

**group by 1**

**order by 2 )**

**SELECT airport\_name from cte**

**limit 1;**

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

Expected Output : Flight Count

**Answer:**

**SELECT**

**count(\*)  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**

**distinct f.flight\_no,f.aircraft\_code,a.range**

**from flights f join aircrafts a**

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

**where a.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(\*) 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(\*) 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;**

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**

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

**from flights f join aircrafts a**

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

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

**and departure\_airport='DME';**

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**

**distinct f.flight\_id,a.model aircraft\_model**

**from flights f join aircrafts a**

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

**WHERE**

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

**f.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**

**distinct f.flight\_id,a.model aircraft\_model**

**from flights f join aircrafts a**

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

**WHERE**

**a.model like '%Boeing%' AND**

**f.status in ('Cancelled','Delayed');**

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

**Answer**

**SELECT**

**a.airport\_name**

**FROM**

**airports a JOIN flights f**

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

**WHERE f.status='Cancelled'**

**GROUP BY 1**

**ORDER BY COUNT(\*) DESC**

**LIMIT 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%';**

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

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

**Answer:**

**WITH cte as**

**(SELECT**

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

**rank()over(partition by departure\_airport order by scheduled\_departure desc )rnk**

**from flights)**

**SELECT**

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

**from cte**

**WHERE rnk=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,amount total\_refund**

**from  tickets t join ticket\_flights tf**

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

**join flights f**

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

**WHERE status='Cancelled';**

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

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

**Answer:**

**WITH cte as**

**(SELECT**

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

**rank()over(partition by departure\_airport order by scheduled\_departure )rnk**

**from flights**

**WHERE status='Cancelled')**

**SELECT**

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

**from cte**

**WHERE rnk=1;**

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 status='Cancelled'  ;**

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

*Expected Output : Flight\_no, range*

**Answer:**

**with cte as**

**(SELECT distinct flight\_no, range max\_range**

**from aircrafts a  join flights f**

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

**select**

**flight\_no,max\_range**

**from cte**

**where max\_range=(SELECT MAX(max\_range) FROM cte);**