BAN 610 Problem set 2 - SQL

Edit your submission in this word document, attaching the screenshots of the codes used for each question. Include narrative descriptions, outputs screenshot, or short answers when requested.

**Task 1**

Use the frequent flyer database.

List all flights (Flight\_no) for those that leaves HOU or SFO

**Query:**

select \*

from(

select

Flight\_no

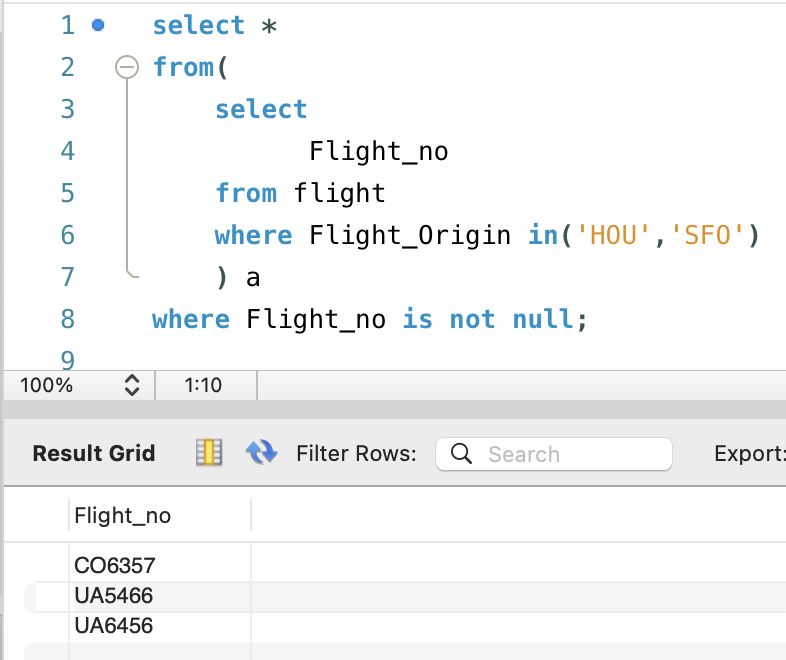
from flight

where Flight\_Origin in('HOU','SFO')

) a

where Flight\_no is not null;

**Output:**

****

**Task 2**

Use the frequent flyer database.

Generate a list of all information about the frequently flyer whose **first name** starts with “D”.

**Query:**

select \*

from(

select \*

from flyer

where Flyer\_Name like '%, D.'

) a

where Flyer\_Name is not null;

**Output:**

**A screenshot of a computer

Description automatically generated**

**Task 3**

Use the frequent flyer database.

Generate a list of all flight operators, along with the number of flights of each operator, and its average miles per flight. Order the output by the average miles per flight in descending order.

**Query:**

select Flight\_operator,

count(Flight\_operator) as Number\_of\_flights,

sum(Miles\_per\_flight) / count(Flight\_operator) as Average\_miles\_per\_flight

from flight

group by Flight\_operator

order by Average\_miles\_per\_flight desc;

**Output:**

**A screenshot of a computer

Description automatically generated**

**Task 4**

Use the frequent flyer database.

For each Flight\_operator, calculate the number of trips commissioned by it with a fare greater than $300.

**Query:**

select Flight\_operator,

count(Flight\_fare) as Trips\_greater\_than\_300

from flight

join trip

on flight.Flight\_no = trip.Flight\_no

where Flight\_fare > 300

group by Flight\_operator;

**Output:**

A screenshot of a computer program

Description automatically generated

**Task 5**

Use the frequent flyer database.

List the names of the flyers who ever went to Atlanta

**Query:**

select Flyer\_Name

from flyer

join trip

on flyer.Frequent\_Flyer\_ID = trip.Frequent\_Flyer\_ID

join flight

on trip.Flight\_no = flight.Flight\_no

where Flight\_Destination = 'ATL';

**Output:**

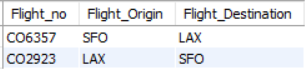
**A screenshot of a computer program

Description automatically generated**

**Task 6**

Use the frequent flyer database.

Identify all the possible round trips from the flight table (e.g., there is an A to B trip and a B to A trip available). List the Flight\_no, the origin, and the destination. Your result should look like the following:



**Query:**

select f1.Flight\_no,

f1.Flight\_Origin,

f1.Flight\_Destination

from flight f1

join flight f2

on f1.Flight\_Origin = f2.Flight\_Destination

and f1.Flight\_Destination = f2.Flight\_Origin;

**Output:**

**A screenshot of a computer

Description automatically generated**

**Task 7**

Use the frequent flyer database.

What is the most visited flight destination?

In case of a tie, list all of them.

**Query:**

select

Flight\_destination

,count(\*) as No\_of\_Times\_Visited

from flight a

group by Flight\_destination

having No\_of\_Times\_Visited=( select max(No\_of\_Times\_Visited)

from (

select

Flight\_destination

,count(\*) as No\_of\_Times\_Visited

from flight a

group by Flight\_destination

)a

);

**Output:**

**A screenshot of a computer

Description automatically generated**

**Task 8**

Use the book loan database.

Extract the most popular author in the university (borrowed the most often by students)

In case of a tie, list all of them.

**Query:**

select

Book\_First\_Author

,count(\*) No\_of\_Times\_Borrowed

from book

join copy

on book.Book\_ISBN = copy.Book\_ISBN

join loan

on copy.Book\_Call\_No = loan.Book\_Call\_No

group by Book\_First\_Author

having No\_of\_Times\_Borrowed = ( select max(No\_of\_Times\_Borrowed)

from (

select

Book\_First\_Author

,count(\*) No\_of\_Times\_Borrowed

from book

join copy

on book.Book\_ISBN = copy.Book\_ISBN

join loan

on copy.Book\_Call\_No = loan.Book\_Call\_No

group by Book\_First\_Author

)a

);

**Output:**

**A screenshot of a computer

Description automatically generated**

**Task 9**

Use the book loan database.

Use the loan table, for each student, calculate the total payment due for all books he/she borrowed. Assume that the university charges $0.1 per book per day for book loans.

**Query:**

select

student.Stu\_ID,

student.Stu\_Name,

sum(datediff(loan.Due\_Date,loan.Borrow\_Date) \* 0.1) as Payment\_Due

from student

join loan

on student.Stu\_ID = loan.Stu\_ID

group by student.Stu\_ID,student.Stu\_Name;

**Output:**

**A screenshot of a computer

Description automatically generated**