CS3743 Hwk 6 SQL DML (30pts) – due Apr 5, 2018

Flight(flightId, flightNm, airline, orig, dest, schedDt, depTm, maxSeats, numSeatsSold)

* flightId is the unique primary key. The combination of flightNm and schedDt is also unique.

Customer(custNr, name, preferAirline, gender, birthDt)

Reservation(custNr, flightId, reqSeatQty)

To make it easier for the grader, use the following tuple variables: Flight – f, Customer – c, Reservation – r. There may be cases where you need multiple tuple variables for the same relation; please use something meaningful (e.g., rRD).

Please show **an appropriate SQL SELECT** statement to answer each of the following. Some of the problems will require nested SELECT statements (due to NOT EXISTS). You may also get up to 5 points of extra credit by using the **mysql** command line utility to run your queries and paste the results into your solution for each question. See the sample output below.

**1. (1 pt) Find the flightId, airline, and departure time for flights departing from SAT for MCO.**

select f.flightId, f.airline, f.depTm

from Flight f

where orig = “SAT” and dest = “MCO”;

**2. (2 pts) Find the flightNm, departure time, and origin for flights on which the customer named Perry Noid has a reservation.**

select f.flightNm, f.depTm, f.orig

from Flight f, Customer c, Reservation r

where c.name = “Perry Noid”

and c.custNr = r.custNr

and f.flightId = r.flightId;

**3. (3 pts) Find the airline of flights departing "SAT" on "2018-03-03" for the customer named "Anita Vacay".**

select f.airline

from Flight f, Customer c, Reservation r

where c.name = “Anita Vacay”

and c.custNr = r.custNr

and f.flightId = r.flightId

and orig = “SAT”

and schedDt = “2018-03-03”;

**4. (4 pts) Find the customer numbers and names of customers who have a reservation on a flight leaving on April 4th of 2018 on which customer #444 also has a reservation. Do not include #444 in your result. Hint: you will have to use one of the relations twice.**

select c.custNr, c.name

from Flight f, Customer c, Reservation r, Reservation r2

where c.custNr != “444”

and r2.custNr = “444”

and r2.flightId = f.flightId

and f.schedDt = “2018-04-04”

and r2.flightId = r.flightId

and c.custNr = r.custNr;

**5. (4 pts) Find the customer number of customers who are flying on all of the flights having a destination of "SEG".**

select c.custNr

from Customer c

where NOT EXISTS (

select \*

from Flight f

where f.dest = “SEG”

and NOT EXISTS(

select \*

from Reservation r

where r.flightId = f.flightId

and r.custNr = c.custNr));

**6. (4 pts) Find the name, gender, and birth date of customers who only have reservations on flights with Spirit airlines. State whether your answer includes customers that don't have any associated reservations.**

select c.name, c.gender, c.birthDt

from Customer c

where NOT EXISTS (

select \*

from Reservation r

where r.custNr = c.custNr

and NOT EXISTS(

select \*

from Flight f

where r.flightId = f.flightId

and f.airline = “Spirit”));

**7. (3 pts) Find the flightNm and scheduled dates for flights on which only customer #777 has a reservation. State whether your answer includes flights that don't have any associated reservations.**

select f.flightNm, f.schedDt

from Flight f

where not exists(

select r.custNr

from Reservation r

where r.custNr = “777”

and r.flightId = f.flightId);

**8. (5 pts) Find the names of customers who are on all the flights which Ron DeVoux has reservations. State whether you included Ron DeVoux in your answer.**

**Hint: obtain the custNr for Ron DeVoux before attempting the universal quantifier.**

select c.name

from Customer c

where c.name != “Ron DeVoux”

and not exists(

select \*

from Customer cRD

where cRD.name = “Ron DeVoux”

and not exists(

select \*

from Reservation rRD

where rRD.custNr = cRD.custNr

and not exists(

select \*

from Reservation r

where r.flightId = rRD.flightId

and r.custNr = c.custNr)));

**9. (4 pts) Find the customer number, names, and preferred airlines for customers who do not have reservations on a flight which Clampett is the airline.**

select c.custNr, c.name, c.preferAirline

from Customer c

where not exists(

select \*

from Reservation r

where r.custNr = c.custNr

and not exists(

select \*

from Flight f

where f.flightId = r.flightId

and f.airline <> “Clampett”));

**Extra Credit (5 points)**

For each of the problems, also show the output which you can obtain by using the **mysql** command line utility.

**Using MySQL to connect to flightdb**.

1. Login to either a fox server or one of the Linux workstations in the CS main lab.
2. To launch the mysql command line utility:

$ mysql –h **db01** –u **hwk06** –p

* It will prompt you to enter a password. Enter:

**hwk06pw**

* It should then give you the **mysql>** prompt.

1. Tell mysql that you want to use **flightdb**:

mysql> **use flightdb;**

* + It should state "**Database changed**".

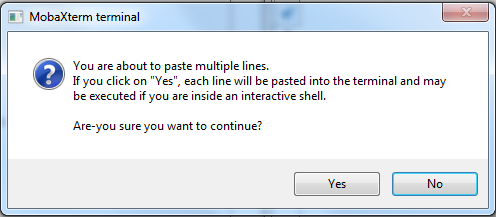
1. Confirm that you are connected to the flightdb by executing each of these queries:

mysql> **select \* from Flight;**

mysql> **select \* from Customer;**

mysql> **select \* from Reservation;**

1. Paste or type an sql select statement (including the semicolon).
   * If you paste a multi-line SQL select statement when using MobaXterm, it will probably respond with this window:



* + Press the **Yes** button.
  + Copy the result text lines.

1. Paste your result text lines into your assignment answer document. You will need to change the font of the output to a fixed font (e.g., consolas, courier).
2. To exit the mysql command line utility:

mysql> **exit;**

Sample (partial) output:

1. (1 pt) Find the flightId, airline, and departure time for flights departing from SAT for MCO.

…. your query ….

+----------+----------+----------+

| flightId | airline | depTm |

+----------+----------+----------+

| 331 | PoDunk | 10:00:00 |

| 341 | PoDunk | 10:00:00 |

| 510 | American | 10:30:00 |

| 519 | PoDunk | 16:00:00 |

| 705 | Clampett | 04:00:00 |

+----------+----------+----------+

2. (2 pts) Find the flightNm, departure time, and origin for flights on which the customer named Perry Noid has a reservation.

…. your query ….

+----------+----------+------+

| flightNm | depTm | orig |

+----------+----------+------+

| PD001 | 10:00:00 | SAT |

| SH100 | 07:00:00 | IHC |

| F333 | 16:00:00 | SAT |

+----------+----------+------+

3. (3 pts) Find the airline of flights departing "SAT" on "2018-03-03" for the customer named "Anita Vacay".

…. your query ….

+---------+

| airline |

+---------+

| PoDunk |

+---------+