**Lab 6 Exercise DUE ON SUNDAY NOON**

In lab 5, we have modeled a database for Syracuse Airways to track planes and flights. In this lab, assume we created the following ERD model for the Airways database (see below).



As the model shows: the company has many airplanes which are of different specifications (e.g. Boeing 777, Airbus A320, and so on). Each aircraft specification has the same attributes, such as aircraftVersion, cabin number of seats and fuel capacity. The airplanes are assigned to diverse flight routes. Each flight route has a unique flight number, departs and arrives at particular airport at different cities in scheduled time. Every day the airplanes work according to their flight routes, but the flight schedule may be affected by flight statuses (on time, delay, or cancelled).

**Instruction**

Imagine you are hired to design a new database to support this platform. In lab 5 you have created and populated the tables. In this lab, you are going to write complex queries which pull data out of multiple tables. Please write SQL statements to finish the following tasks.

Before starting the lab, please use the following SQL commands to add new data to your tables.

INSERT INTO Airplane VALUES ('AP323344','AIR1','2011-02-21'),('AP432379','AIR2','2012-03-22'),

('AP241175','BOE3','2012-02-20'),('AP137783','AIR1','2012-04-16'),('AP100772','AIR1','2012-06-07'),('AP132221','AIR2','2010-07-04'),('AP107207','BOE2','2012-07-29'),('AP461923','BOE1','2012-07-31'),('AP913157','BOE3','2012-10-12'),('AP133451','BOE1','2011-09-22'),('AP813701','AIR1','2013-01-03'),('AP479451','BOE3','2012-01-13'),('AP132984','AIR2','2013-11-28');

INSERT INTO FlightRoute VALUES ('4375','IAD','JFK','06:00','07:03'),

('1307','SFO','LGA','00:20','07:40'),('3019','ORD','LAX','14:40','18:15'),

('1436','LAX','BOS','10:05','15:33'),('7192','SYR','MIA','11:30','12:45'), ('2533','JFK','DCA','07:20','13:30');

INSERT INTO FlightSchedule VALUES ('4375','2015-02-14','D','AP132984','06:30','07:40'),

('1307','2014-12-15','C','AP133451',NULL,NULL),('1307','2014-12-16','D','AP137783',NULL,NULL),

('3019','2015-01-16','O','AP432379',NULL,NULL),('2533','2015-01-16','O','AP133451',NULL,NULL),

('4375','2014-12-16','D','AP132221','06:30','07:40'),('7192','2015-01-17','O','AP100772',NULL,NULL),

('7192','2014-12-18','O','AP107207',NULL,NULL);

**QUESTIONS** (*Additional Questions Highlighted in Yellow*)

1. Find out all flight schedule information of flight “3310” and “3312”. Make sure to show all the fields.
2. Find all flights departing from airports that start with ‘S’. Show flight number, depart airport, arrival airport, and depart time.
3. Find 4 most recently purchased planes. Show airplane ID and purchase date only.
4. Count the number of flights departing each day. Show the date and the number of flights.
5. Sort the AircraftSpecs table by fuel capacity in descending order. Show the result with aircraft version and fuel capacity.
6. Find all airplanes which flew in the first half of Feb 2014 (From Feb 1- to Feb 14) and the flight status was “on time”. Show airplane ID, purchase date, flight number, and status ID.
7. Find all flights which depart from “BOS” after noon. Show flight number, flight date, depart airport and scheduled depart time.
8. Find all airplanes which were delayed or cancelled. Show only airplane ID, flight date and status description.
9. Find the flight(s) which are “on time”, display the Flight number and departure airport
10. Find all the airplanes that have not been scheduled to fly. *(You can use Left Join)*
11. Find all only airplanes that have been scheduled to fly and delayed. Display Airplane ID of the flight *(Use Right Join)*

**Submission instruction**

Please submit your lab report in **one** **.docx** file to Blackboard. Name your file in this format “IST659-Lab6-Lastname-Firstname.docx”.

After each question, copy and paste your SQL statement, followed by the screenshot to show that your SQL statement has been successfully executed. Remember to add comments to your SQL statements to explain the purpose of the code blocks.

**Grading Criteria:**

1. Attempt every question -1 for each un-attempted question
2. -0.5 for each wrong query/result
3. -0.25 for each missing screenshots of queries/ results