Northeastern University

Course:	DA5020
Assignment:	Relational Database Creation & Loading
Total Points:	100
Date Due:	Posted on Blackboard

Learning Objectives

In this assignment, you will learn how to:

- create a SQLite database
- connect to SQLite
- create tables using SQL
- add data to tables via SQL INSERT statement or CSV loads
- Extract aggregated statistics on the data

Tasks

1) Revisit the Bird Strike database schema developed in class from the bird strikes zip files. After installing SQLite, implement the tables for the database design in SQLite and load the data from the Bird Strikes Excel file into the correct tables using either SQL INSERT statements or CSV loads. Make sure the database design is normalized (at least 3NF) and has minimal redundancy. Create as many tables as you need. Decide on primary and foreign keys and add new ID fields as required. (30 points)
2) Write a SQL SELECT statement that counts the number of incidents where the incident reported fog during the incident. (10 points)

For the following functions, use the SQL SELECT statement to retrieve the necessary data.

3) Write a function called CountIncidents(AircraftType) that accepts an aircraft type and returns the number of birdstrikes incidents for the aircraft type. (20 points)

4) Write a function called Incidents(Airline) that accepts an airline and returns a dataframe that contains all incidents for that airline. Limit the columns to: AirportName, AircraftModel, and Flight Date. (20 points)

5) Write a function called CountIncidentsByAirline() that creates a dataframe where the first column is a name of an Aircraft and the second column is the total number of incidents the Airline had. (20 points)

Complete the tasks and submit the R script to blackboard.