Northeastern University

Course:	CS6020
Assignment:	Relational Database Design
Total Points:	100
Date Due:	Posted on Blackboard

Learning Objectives

In this assignment, you will learn how to:

- design a relational data storage structure
- normalize data
- create a visual data model

Tasks

Revisit the Bird Strike data set that we previously worked with. The data file contains the following data fields (ignore any additional fields in the file and limit your database to these):

- Aircraft Type
- Airport Name
- Altitude
- Aircraft: Make/Model
- Wildlife
- Effect: Impact to Flight
- Effect: Other
- Location
- Flight Number
- Flight Date
- Record ID
- Effect: Indicate Damage
- Aircraft: Number of Engines
- Airline/Operator
- Origin State
- When: Phase of Flight
- Conditions: Precipitation
- Remains of Wildlife Collected?

- Remarks
- Reported: Date
- Wildlife: Size
- Conditions: Sky
- Wildlife: Species
- When
- Pilot Warned of Bird Strikes
- Cost: Aircraft Time Out
- Cost: Repair
- Feet above Ground
- Speed

Note that not all fields have values. You need to determine if that means the data is not available because it is unknown or because it does not apply, i.e., do you have an *optional* field? That determines whether you allow *null* values.

Design a normalized (at least 3NF) relational data model that has minimal redundancy. Create as many tables as you need. Decide on primary and foreign keys and add new ID fields as required. Construct a visual model using LucidChart -- an online visual modeling tool (this is built into Google Docs or available as a stand-alone web-based tool).

Complete the tasks and attach your data model with any comments, assumptions, and explanations as a PDF to your submission.