Lab 6: Database Design (6% of total grade)

Submission: Use the included Google Sheets template linked to in 'Assessments > Lab 6 - Database Design' on Blackboard. Create a copy of this so you can edit your own version. When submitting this lab, select 'Share' and change the setting to 'Anyone with the link' & 'Commenter'. Select 'Copy link' and paste that link in the submission text box on Blackboard.

Name your file: HTTP5126-L6-DatabaseDesign-*LastNameFirstName*, replace *LastNameFirstName* with your name as displayed in Blackboard.

Purpose: To practice database design skills by identifying required tables, columns, and data types.

Requirements: For this lab, you will begin the process of designing your own database. Each part of this lab will complete a step in The Database Design Process discussed in class. This will be the first of three labs that will build on each other. At the end of Lab 6&7 you will have created the architecture and design of a database. At the end of Lab 8 you will have written the SQL code to implement that database.

You may select any use case for this lab, I suggest you pick a topic of personal interest to you however the database can be for any scenario you decide. For example, the database from lectures is for a movie information system. The purpose is to store and organize information about movies and directors to provide movie data for instructional use.

However, your database could also serve a completely different purpose, such as the needs of a local business, public service, or just personal interest. Whatever scenario you choose, consider the potential uses of the database to inform your answers to the questions in this lab. *Keep your answers simple and to the point.*

The only exclusions of scenarios will be the database examples used in class lectures, labs, or quizzes. (Movies, Students/Courses, Music Streaming Services, Pet Store)

Summary: In short this lab will take you through the steps of the design process discussed in Week 6. The steps being:

1. Determine a real-life scenario and describe the purpose or the database
2. Brainstorm data for the scenario
3. Determine tables, columns, and data types for the scenario
4. Construct Table Diagrams including the data types
5. Create example data

Part 1: Determine the Purpose of Your Database (1%)

Using the 'Database Purpose' sheet in your document.

A. Explain the 'Real World Scenario' you are basing your database on.
B. Who will use the database?
C. In 1 or 2 sentences, how do you expect to use the database?

Part 2: Find and organize the information required (1%)

Using the 'Information Discovery' sheet in your document.

A. Brainstorm different data fields that could be used in your database. Do not worry about organizing anything right now, simply type your ideas into this sheet. At least 15 data items should be identified for this part, but you may put more.

Part 3: Divide the information into tables (1%)

Using the 'Table Drafts' sheet in your document.

A. What are the entities to store? Identify 3 tables based on the ideas generated from Part 2.

Part 4: Turn information items into columns (1%)

Using the 'Table Drafts' sheet in your document.

A. What are the individual data pieces that would be fields of these tables? *Your tables should have 3 to 5 columns, unless there is a valid reason for them to have more or less.*
B. If needed, refine your tables. (Consider the notes in 'Add or Expand Tables with Columns' of Week 6 slides)

Part 5: Determine Data Types (1%)

Using the 'Table Drafts' sheet in your document.

A. Decide on the appropriate data types for your columns and include them in the right column of each table.

Part 6: Create Example Tables (1%)

Using the 'Table Draft Examples' sheet in your document.

A. Fill 3 rows for each table with examples of records in the tables. *These examples should be valid for the design you have created, if they break your rules, then refine either your design or data.*