Relational Database & SQL Final Project

# Objective

The goal of the final project is to demonstrate that the following Course Learning Outcomes have been covered and that students can apply the concepts:

1. Design and document a relational database in third normal form based on business needs.
2. Create a relational database based on database design and business needs.
3. Insert data into relational database based on database design and business needs.
4. Create and execute SQL (Structured Query Language) statements to retrieve information from a properly designed relational database.
5. Define and utilize constraints.
6. Create and execute simple stored procedures, user-defined functions, and triggers.

# Description

Each student will create a database that could be used as a data layer for a web-based or client application. The project can be for any type of database the student wants, the following are some ideas:

* An online restaurant ordering system
* A ride-sharing app like Uber
* An app for tracking a house-flipping business
* An equipment rental business app
* Tracking characters for a role-playing game
* A Fantasy Sports tracking database

The project should be something you are interested in and can have fun creating.

# Requirements The project is meant to be fun, but also should provide you a challenge. By finishing a challenging project you should feel a sense of accomplishment when you are done! Below are the requirements:

* At least 3rd Normal Form data structure using Primary and Foreign Keys
* An index on any fields that may be searchable (descriptions, names, etc)
* At least two Views that displays column names using an alias, one of which will need to use an aggregate function
* At least two stored procedures to display records based on parameterized search criteria
* At least one stored transactional procedure to create records based on parameterized statements
* At least one stored transactional procedure to update records based on parameterized statements
* At least one stored transactional procedure to mark records to be deleted based on parameterized statements
* At least one user defined function that is called in at least one of the stored procedures
* At least one trigger that either creates an audit record or enforces data consistency

# Project Artifacts The database project will have the following artifacts due. These will not only provide a way to evaluate your knowledge, but will also be useful for you when working on your project.

* Detailed Business Requirements
* ER Diagram
* Data Dictionary
* Data Mockup File
* A Script File for creating the database, tables, indexes, views and constraints
* A Script File for inserting sample data into tables
* A Script File for stored procedures, functions, and triggers