CSDA 5210 Final Project (100 points)

Please design an operational database and accompanying data warehouse using the concepts and tools provided in the book and lectures.

You are free to choose any business model. This [site](https://instanteduhelp.com/unique-database-project-ideas/) provides 100 ideas that can be used.

The following represents the specific items that your design should have along with the specific information that you should provide as support.

1. **Requirements**

List out the business requirements that a database designer would need to design the database by answering the following questions:

* 1. What operations will be captured by the database?
  2. What information needs to be tracked?
  3. What are the relationships and constraints?

1. **ER Diagram**

Use [ERDPlus](https://erdplus.com/) to model the requirements. Your model should contain the following:

* 1. Minimum 4 entities with attributes
  2. Relationships, cardinalities, and constraints

1. **Relational Schema**

Map the ER Diagram into a relational schema. Your schema should contain the following:

* 1. Minimum 4 relations (tables) with attributes (columns)
     1. Be sure to use correct labeling/notation of primary keys, foreign keys, optional attributes, etc.
  2. Relationships

1. **Referential Integrity Constraints**

List any Update/Delete or user defined constraints.

1. **Implementation SQL**

Provide the DDL (CREATE) and DML (INSERT INTO) SQL statements needed to implement your database design. Your SQL statements should include the following:

* 1. Minimum 10 records in at least 1 relation
  2. Minimum 1 record in all other relations
  3. Each relation/entity represented in relational/ER model should be implemented
  4. Data types should reasonably match each attribute
  5. Primary/Foreign keys, indexes and any non-implicit referential integrity constraints

1. **Data Warehouse Requirements**

List out the requirements for a subject of analysis that uses your database as a source by answering the following questions:

* 1. What is the subject of analysis?
  2. What fields or attributes will be useful in the analysis?
  3. What is the granularity of the facts/measures?

1. **Star Schema of Data Warehouse**

Use [ERDPlus](https://erdplus.com/) to model the requirements. Your model should contain the following:

* 1. Minimum 3 dimensions
  2. Minimum 1 fact/measure