**CSCI 4125/5125 Course Project**

**Data Models and Database Systems**

**Fall 2023**

**Course Project**

**Phase 4: Introductory SQL, DDL & Inserts (9/15)**

**Due: Sunday, 9/24 @ 11:59pm**

**Reading:** Silberschatz Chapters 3.1 – 3.4, 3.6 – 3.9, 4.3 – 4.5

**Submission Guidelines:**

1. This assignment is worth 50 points for all students.

2. It is your responsibility to make sure all files are readable and submitted on time.

**Submission:**

- Task 1 requires you to submit a single .sql file worth 30 points.

- Task 2 requires you submit five .sql files and another file in the format of your choice (e.g., Word, PDF, text, etc.) worth 20 points.

**Task 1. SQL DDL (30 points)**

Write a SQL DDL script to create your tables from Phase 3. Use the following guidelines and relational schema:

* At the top of your script include a drop table command for each of your tables. Note that you must pay attention to referential integrity when considering the order to drop tables.
* Column names should match the attributes in the relational schema. This will allow for consistency in our queries later.
* Columns must use reasonable domains based on the data in the included .txt files.
* All primary keys must be declared.
* All foreign keys must be declared.
* Run your SQL script and debug any errors.
* **Submit:** a single .sql file named store\_schema.sql.

A diagram of a product

Description automatically generated

**Task 2. Populating the database (20 points)**

Using your Java program from Phase 3, generate INSERT statements for the six .txt files included with this document. You should generate a total of six SQL scripts containing INSERT statements. Use the following guidelines to submit your work:

* Data types must be properly formatted, e.g., strings must use single quotes, dates must use the correct format.
* Some strings might contain a single quote. Make sure the single quote appears in the value. This can be easily addressed with the replace() method.
* Each script should include a commit (i.e., “commit;”) at the end of the file. You can modify your Java program to simply write that before you close the outfile.
* Name each file [table name].sql.
* Run each script in SQL Developer. Remember that you can run SQL scripts using **@[path]\[file].sql**
* You will need to run the INSERT’s in the proper order that does not violate referential integrity.
* Read the output that is generated. If there are any errors, it is up to you to fix them. Errors to watch out for include, improper syntax, violating domain constraints, violating primary key constraints, and violating referential integrity.
* If you want to verify that all records were populated, you can run “SELECT COUNT(\*) FROM [table name]” in SQL Developer. This should return 20 for Customer, 15 for Address, 20 for Product, 12 for Review, 50 for Orders, and 100 for Lineitem.
* **Submit:** Six .sql files containing your insert statements. Name them [table].sql. Also submit in any file format (e.g., txt, doc, pdf, etc) you want that explains the order in which you ran your scripts (that doesn’t violate referential integrity).