DAD 220 Database Documentation Template

Complete these steps as you work through the directions for Project One. Replace the bracketed text with your screenshots and brief explanations of the work they capture. Each screenshot and its explanation should be sized to approximately one quarter of the page, with the description written below the screenshot. Follow these rules for each of the prompts and questions below. Review the example document located in the Project One Supporting Materials for assistance.

```
mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| QuantigrationRMA   |
| candiaperez        |
| mysql              |
| performance_schema |
+--------------------+
5 rows in set (0.01 sec)

mysql> use candiaperez;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql>
```

Haley's starting point as per email (I lost all my databases two weeks ago, so this is what I have redone so far)

Step One: Create a Database

1. Navigate to your online integrated development environment (IDE). List and record the SQL commands that you used to complete this step here:

```
 *
Last login: Thu Oct  5 18:06:40 2023 from 192.168.10.226
codio@platoarmada-yogurtmayor:~/workspace$ chmod +x change_perm.sh
codio@platoarmada-yogurtmayor:~/workspace$ ./change_perm.sh

 Updated ownership of workspace to mysql

codio@platoarmada-yogurtmayor:~/workspace$ mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 37
Server version: 5.5.62-0ubuntu0.14.04.1 (Ubuntu)

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
```

The commands I used were:

chmod +x change_perm.sh
./change_perm.sh
mysql

2. Create a database schema called QuantigrationUpdates. List out the database name. Provide the SQL commands you ran against MySQL to successfully complete this in your answer:

```
mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| QuantigrationRMA   |
| candiaperez        |
| mysql              |
| performance_schema |
+--------------------+
5 rows in set (0.00 sec)

mysql> CREATE DATABASE QuantigrationUpdates;
Query OK, 1 row affected (0.00 sec)

mysql> show databases;
+----------------------+
| Database             |
+----------------------+
| information_schema   |
| QuantigrationRMA     |
| QuantigrationUpdates |
| candiaperez          |
| mysql                |
| performance_schema   |
+----------------------+
6 rows in set (0.00 sec)

mysql>
```

The commands I used were:
CREATE DATABASE QuantigrationUpdates;
show databases;

3. Using the entity relationship diagram (ERD) as a reference, create the following tables with the appropriate attributes and keys:
    a. A table named **Customers** in the QuantigrationUpdates database, as defined on the project ERD. Provide the SQL commands you ran against MySQL to complete this successfully in your answer:

```
mysql> use QuantigrationUpdates;
Database changed
mysql> CREATE TABLE Customers (
    -> CustomerID INT NOT NULL PRIMARY KEY,
    -> FirstName VARCHAR(25),
    -> LastName VARCHAR(25),
    -> Street VARCHAR(50),
    -> City VARCHAR(50),
    -> State VARCHAR(25),
    -> ZipCode VARCHAR(10),
    -> Telephone VARCHAR(15));
Query OK, 0 rows affected (0.14 sec)

mysql> describe Customers;
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| CustomerID | int(11)     | NO   | PRI | NULL    |       |
| FirstName  | varchar(25) | YES  |     | NULL    |       |
| LastName   | varchar(25) | YES  |     | NULL    |       |
| Street     | varchar(50) | YES  |     | NULL    |       |
| City       | varchar(50) | YES  |     | NULL    |       |
| State      | varchar(25) | YES  |     | NULL    |       |
| ZipCode    | varchar(10) | YES  |     | NULL    |       |
| Telephone  | varchar(15) | YES  |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
8 rows in set (0.00 sec)

mysql>
```

b. A table named **Orders** in the QuantigrationUpdates database, as defined on the project ERD. Provide the SQL commands you ran against MySQL to complete this successfully in your answer:

```
mysql> CREATE TABLE Orders (
    -> OrderID INT NOT NULL PRIMARY KEY,
    -> CustomerID INT,
    -> SKU VARCHAR(20),
    -> Description VARCHAR(50),
    -> FOREIGN KEY(CustomerID) REFERENCES Customers(CustomerID));
Query OK, 0 rows affected (0.08 sec)

mysql> describe Orders;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| OrderID     | int(11)     | NO   | PRI | NULL    |       |
| CustomerID  | int(11)     | YES  | MUL | NULL    |       |
| SKU         | varchar(20) | YES  |     | NULL    |       |
| Description | varchar(50) | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)

mysql>
```

c. A table named **RMA** in the QuantigrationUpdates database, as defined on the project ERD. Provide the SQL commands you ran against MySQL to complete this successfully in your answer:

```
mysql> CREATE TABLE RMA (
    -> RMAID INT NOT NULL PRIMARY KEY,
    -> OrderID INT,
    -> Step VARCHAR(50),
    -> Status VARCHAR(15),
    -> Reason VARCHAR(15),
    -> FOREIGN KEY(OrderID) REFERENCES Orders(OrderID));
Query OK, 0 rows affected (0.06 sec)

mysql> describe RMA;
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| RMAID   | int(11)     | NO   | PRI | NULL    |       |
| OrderID | int(11)     | YES  | MUL | NULL    |       |
| Step    | varchar(50) | YES  |     | NULL    |       |
| Status  | varchar(15) | YES  |     | NULL    |       |
| Reason  | varchar(15) | YES  |     | NULL    |       |
+---------+-------------+------+-----+---------+-------+
5 rows in set (0.00 sec)

mysql>
```

Step Two: Load and Query the Data

1. **Import the data from each file into tables.**
    - Use the QuantigrationUpdates database, the three tables you created, and the three CSV files preloaded into Codio.
    - Use the import utility of your database program to load the data from each file into the table of the same name. You will perform this step three times, once for each table.

```
mysql> load data infile '/home/codio/workspace/customers.csv' into table Customers FIELDS TERMINATED BY ',' LINES TERM
INATED BY '\n';
Query OK, 37994 rows affected (0.46 sec)
Records: 37994  Deleted: 0  Skipped: 0  Warnings: 0

mysql> load data infile '/home/codio/workspace/orders.csv' into table Orders FIELDS TERMINATED BY ',' LINES TERMINATED
 BY '\n';
Query OK, 37994 rows affected, 4173 warnings (0.62 sec)
Records: 37994  Deleted: 0  Skipped: 0  Warnings: 4173

mysql> load data infile '/home/codio/workspace/rma.csv' into table RMA FIELDS TERMINATED BY ','ENCLOSED BY '"' LINES T
ERMINATED BY '\n';
Query OK, 38162 rows affected (0.45 sec)
Records: 38162  Deleted: 0  Skipped: 0  Warnings: 0

mysql>
```

Here, I loaded the three CSV files into each of the corresponding tables.

2. **Write basic queries against imported tables to organize and analyze targeted data.** For each query, replace the bracketed text with a screenshot of the query and its output. You should also include a 1- to 3-sentence description of the output.
    - Write an SQL query that returns the **count** of orders for customers located only in the city of Framingham, Massachusetts.
        i. How many records were returned?

```
mysql> select Count(*) from Customers inner join Orders on Customers.CustomerID = Orders.CustomerID wher
e City = 'Framingham' and State = 'Massachusetts';
+----------+
| Count(*) |
+----------+
|      505 |
+----------+
1 row in set (0.02 sec)

mysql>
```

There were 505 records returned.

- Write an SQL query to **select all** of the Customers located in the state of Massachusetts.
    ii. Use a WHERE clause to limit the number of records in the Customers table to only those who are located in Massachusetts.
    iii. Record an answer to the following question: How many records were returned?

```
mysql> select * from Customers where State = 'Massachusetts'
    -> ;
+------------+-----------+------------+---------------------------------+---------------+-------------
--+---------+---------------+
| CustomerID | FirstName | LastName   | Street                          | City          | State
  | ZipCode | Telephone     |
+------------+-----------+------------+---------------------------------+---------------+-------------
--+---------+---------------+
|      74086 | Donna     | Hanson     | 977 West White Milton Drive     | Framingham    | Massachusett
   |1701    | 4732778731
```

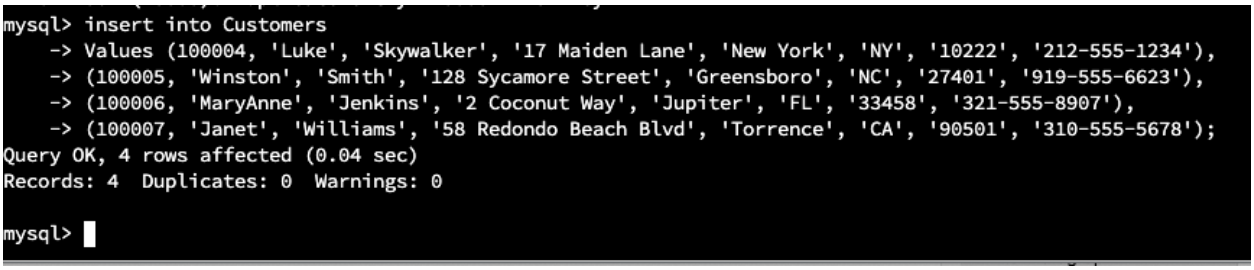
```
  | 1701    | 676-4451359
|      99896 | Nicole    | Berg       | 31 East Second Drive            | Framingham    | Massachusett
   |1701    | 8374554950
|      99942 | Mandi     | Lam        | 59 Fabien Road                  | Wichita       | Massachusett
  | 47379   | 379884-7041
+------------+-----------+------------+---------------------------------+---------------+-------------
--+---------+---------------+
982 rows in set (0.05 sec)

mysql>
```

There were 982 records returned.

- Write a SQL query to insert four new records into the Orders and Customers tables using the following data:

Customers Table

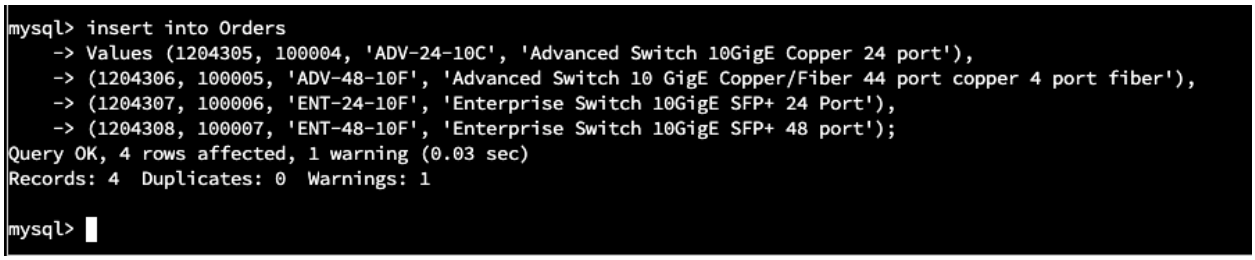
CustomerID	FirstName	LastName	StreetAddress	City	State	ZipCode	Telephone
100004	Luke	Skywalker	15 Maiden Lane	New York	NY	10222	212-555-1234
100005	Winston	Smith	123 Sycamore Street	Greensboro	NC	27401	919-555-6623
100006	MaryAnne	Jenkins	1 Coconut Way	Jupiter	FL	33458	321-555-8907
100007	Janet	Williams	55 Redondo Beach Blvd	Torrence	CA	90501	310-555-5678



Here, I successfully added the four new records to the Customers table.

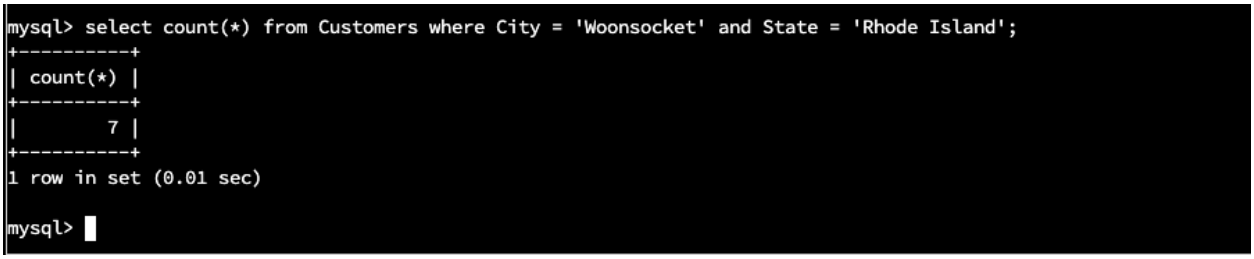
Orders Table

OrderID	CustomerID	SKU	Description
1204305	100004	ADV-24-10C	Advanced Switch 10GigE Copper 24 port
1204306	100005	ADV-48-10F	Advanced Switch 10 GigE Copper/Fiber 44 port copper 4 port fiber
1204307	100006	ENT-24-10F	Enterprise Switch 10GigE SFP+ 24 Port
1204308	100007	ENT-48-10F	Enterprise Switch 10GigE SFP+ 48 port



I successfully added in four new records to the Orders table.

- In the Customers table, perform a query to count all records where the city is Woonsocket, Rhode Island.
    iv. How many records are in the Customers table where the field “city” equals “Woonsocket”?



There are 7 records in the Customers table where the city field is “Woonsocket” in Rhode Island.

- In the RMA database, update a customer's records.
    v. Write an SQL statement to select the current fields of **status** and **step** for the record in the **RMA** table with an **orderid** value of "5175."
        1. What are the current status and step?

```
mysql> select Status, Step from RMA where OrderID = 5175;
+---------+--------------------------------+
| Status  | Step                           |
+---------+--------------------------------+
| Pending | Awaiting customer Documentation |
+---------+--------------------------------+
1 row in set (0.00 sec)

mysql>
```

The current status is "Pending" and the current Step is "Awaiting customer Documentation."

ii. Write an SQL statement to update the **status** and **step** for the **OrderID**, 5175 to **status** = "Complete" and **step** = "Credit Customer Account."
    1. What are the updated **status** and **step** values for this record?

```
mysql> update RMA SET Status = 'Complete', Step = 'Credit Customer Account' WHERE OrderID = 5175;
Query OK, 1 row affected (0.02 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> select Status, Step from RMA where OrderID = 5175;
+----------+-------------------------+
| Status   | Step                    |
+----------+-------------------------+
| Complete | Credit Customer Account |
+----------+-------------------------+
1 row in set (0.00 sec)

mysql>
```

The updated status is "Complete" and the updated Step is "Credit Customer Account."

- Delete RMA records.
    iii. Write an SQL statement to delete all records with a reason of "Rejected."

1. How many records were deleted?

```
mysql> select count(*), Reason
    -> from RMA
    -> Group by Reason;
+----------+------------+
| count(*) | Reason     |
+----------+------------+
|    12609 | Defective
|    13116 | Incorrect
|     1841 | Other
|      596 | Rejected
+----------+------------+
4 rows in set (0.44 sec)

mysql> delete from RMA
    -> where Reason LIKE '%Rejected%';
Query OK, 596 rows affected (0.09 sec)
```

There were 596 records with a reason of "deleted," and there were 596 records deleted.

3. **Update your existing tables** from "Customer" to "Collaborator" using SQL based on this change in requirements. Provide the SQL commands you ran against MySQL to complete this successfully in your answer:
    a. Rename all instances of "Customer" to "Collaborator."

```
mysql> ALTER TABLE Orders
    -> DROP FOREIGN KEY Orders_ibfk_1;
Query OK, 37998 rows affected (0.52 sec)
Records: 37998  Duplicates: 0  Warnings: 0

mysql> ALTER TABLE Customers
    -> Change CustomerID CollaboratorID INT;
Query OK, 37998 rows affected (0.41 sec)
Records: 37998  Duplicates: 0  Warnings: 0
```

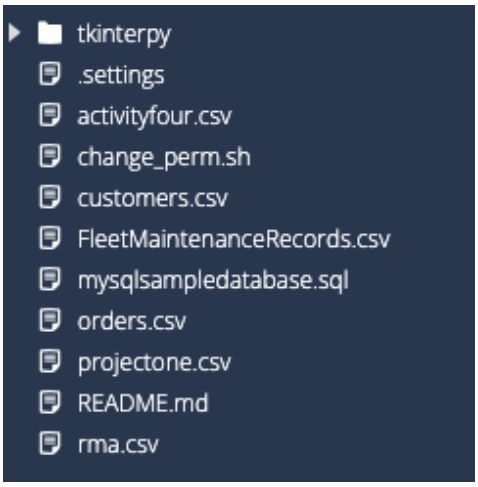
```
mysql> ALTER TABLE Orders
    -> CHANGE CustomerID CollaboratorID INT;
Query OK, 37998 rows affected (0.59 sec)
Records: 37998  Duplicates: 0  Warnings: 0

mysql> ALTER TABLE Orders
    -> ADD FOREIGN KEY (CollaboratorID) REFERENCES Customers(CollaboratorID);
Query OK, 37998 rows affected (0.69 sec)
Records: 37998  Duplicates: 0  Warnings: 0
```

```
mysql> describe Customers; describe Orders;
+----------------+-------------+------+-----+---------+-------+
| Field          | Type        | Null | Key | Default | Extra |
+----------------+-------------+------+-----+---------+-------+
| CollaboratorID | int(11)     | NO   | PRI | 0       |       |
| FirstName      | varchar(25) | YES  |     | NULL    |       |
| LastName       | varchar(25) | YES  |     | NULL    |       |
| Street         | varchar(50) | YES  |     | NULL    |       |
| City           | varchar(50) | YES  |     | NULL    |       |
| State          | varchar(25) | YES  |     | NULL    |       |
| ZipCode        | varchar(10) | YES  |     | NULL    |       |
| Telephone      | varchar(15) | YES  |     | NULL    |       |
+----------------+-------------+------+-----+---------+-------+
8 rows in set (0.00 sec)

+----------------+-------------+------+-----+---------+-------+
| Field          | Type        | Null | Key | Default | Extra |
+----------------+-------------+------+-----+---------+-------+
| OrderID        | int(11)     | NO   | PRI | NULL    |       |
| CollaboratorID | int(11)     | YES  | MUL | NULL    |       |
| SKU            | varchar(20) | YES  |     | NULL    |       |
| Description    | varchar(50) | YES  |     | NULL    |       |
+----------------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

Here, I renamed all instances of “CustomerID” to “CollaboratorID” which was in both the Customers table and the Orders table.

4. **Create an output file of the required query results.** Write an SQL statement to list the contents of the **Orders** table and send the output to a file that has a .csv extension.

```
mysql> select *
    -> from Orders
    -> into outfile '/home/codio/workspace/projectone.csv' FIELDS TERMINATED BY ',';
Query OK, 37998 rows affected (0.03 sec)

mysql>
```



I created an output file named “projectone.csv” and it is reflected in the sidebar as well, proving successful.