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.

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:

```
codio@bisonmulti-insectgreen:~/workspace$ mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 36
Server version: 5.5.62-0ubuntu0.14.04.1 (Ubuntu)

Copyright (c) 2000, 2018, Oracle and/or its affiliates. All rights reserved.

Oracle is a registered trademark of Oracle Corporation and/or its
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> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| QuantigrationRMA   |
| classicmodels      |
| medina             |
| mike               |
| mysql              |
| performance_schema |
+--------------------+
7 rows in set (0.01 sec)
```

I typed MYSQL into the IDE to identify what language I would be working in. Additionally, I typed the command show databases to view all existing databases within the server.

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

ERROR:
No query specified

mysql> Show databases;
+----------------------+
| Database             |
+----------------------+
| information_schema   |
| QuantigrationRMA     |
| QuantigrationUpdates |
| classicmodels        |
| medina               |
| mike                 |
| mysql                |
| performance_schema   |
+----------------------+
8 rows in set (0.00 sec)

mysql> use QuantigrationUpdates;
Database changed
mysql> show tables;
Empty set (0.00 sec)
```

I used the CREATE DATABASE function to create a database schema and then named it QuantigrationUpdates.

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> 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(25),
    -> Telephone VARCHAR(15));
Query OK, 0 rows affected (0.07 sec)
```

After viewing the Quantigration RMA diagram, I understood the datatypes required for this table and began creating a customer table. This was because Customers was going to house the first primary key, which needed to exist before the other two tables so their foreign key references could exist. I identified CustomerID as the primary key and established it as not null to ensure it met the requirements for primary keys.

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 (0.07 sec)
```

After adhering to the RMA diagram and establishing the first customers table, I created the Orders table. This was so that when I produced the foreign key, it could be adequately referenced without error. The rest of the commands for the table adhered to their respective datatype and numerical limits.

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)
```

This was the last table to be created as it required orders table to be erected first. The RMA diagram was adhered to when inserting each field as well as the primary key and foreign key for RMAID and OrderID.

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 Customers FIELDS TERMINATED BY ',' LINES TERMINATED BY '\n';
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax
mysql> LOAD DATA INFILE '/home/codio/workspace/customers.csv' INTO TABLE Customers FIELDS TERMINATED BY ',' LINES TERMINATED BY '\n';
Query OK, 37994 rows affected (0.55 sec)
Records: 37994  Deleted: 0  Skipped: 0  Warnings: 0
```

```
mysql> LOAD DATA INFILE '/home/codio/workspace/rma.csv' INTO TABLE RMA FIELDS TERMINATED BY ',' LINES TERMINATED BY '\n';
Query OK, 38162 rows affected (0.64 sec)
Records: 38162  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 (0.61 sec)
Records: 37994  Deleted: 0  Skipped: 0  Warnings: 4173
```

Each csv table was gathered and inserted into each respective table according to the data each held. This was done by individually using the LOAD DATA INFILE command, followed by the pathway of each csv file, and the commands of FIELDS and LINES TERMINATED BY to instruct the data how to format itself into the tables properly. The Fields were terminated by the ',' value, and the lines were commanded to start new fields at the beginning of a new line with the '\n' command.

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 Orders.CustomerID= Customers.CustomerID WHERE City='Framingham' AND State='Massachusetts';
+----------+
| COUNT(*) |
+----------+
|      505 |
+----------+
1 row in set (0.11 sec)
```

In this query, I utilized the SELECT, COUNT(*), and FROM to specify where the data would come from and in what format information would be output. In this instance, it was in a numerical count. The Inner JOIN ON specified that the two tables, customers and orders, will be linked together based on their shared customerID keys to view both data simultaneously. The WHERE for city and state specified which areas of the country would be counted for customer orders, which, when commanded, returned a count of 505.

- Write an SQL query to **select all** of the Customers located in the state of Massachusetts.
    i. Use a WHERE clause to limit the number of records in the Customers table to only those who are located in Massachusetts.

ii. Record an answer to the following question: How many records were returned?

```
mysql> SELECT COUNT(*) FROM Customers WHERE State='Massachusetts';
+----------+
| COUNT(*) |
+----------+
|      982 |
+----------+
1 row in set (0.01 sec)
```

Since only one table is being queried, no linkage will be required through joins. The Customers table is selected with the specification of returning a count of all records. The Where command returns only records that equal the state of Massachusetts, and when entered, returns 982 records.

- 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

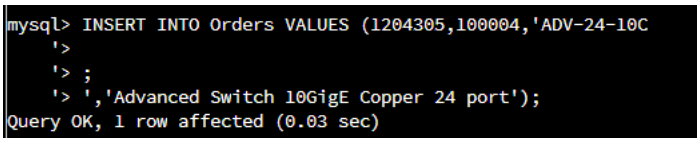
```
mysql> INSERT INTO Customers VALUES (100004,'Luke','Skywalker','15 Maiden Lane','New York','NY',10222,'212-555-1234');
Query OK, 1 row affected (0.02 sec)

mysql> INSERT INTO Customers VALUES (100005,'Winston','Smith','123 Sycamore Street','Greensboro','NC',27401,'919-555-6623');
Query OK, 1 row affected (0.02 sec)

mysql> INSERT INTO Customers VALUES (100006,'MaryAnne','Jenkins','1 Coconut Way','Jupiter','FL',33458,'321-555-8907');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Customers VALUES (100007,'Janet','Williams','55 Redondo Beach Blvd','Torrence','CA',90501,'310-555-5678');
Query OK, 1 row affected (0.02 sec)
```

```
mysql> SELECT * FROM Customers
    -> WHERE CustomerID IN (100004, 100005, 100006, 100007);
+------------+-----------+-----------+-----------------------+------------+-------+---------+--------------+
| CustomerID | FirstName | LastName  | Street                | 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 |
+------------+-----------+-----------+-----------------------+------------+-------+---------+--------------+
4 rows in set (0.00 sec)
```

Each Value was inserted in accordance with the field it matched, such as FirstName being partnered with Luke, Winston, MaryAnne, and Janet. The command used to insert each field was INSERT INTO followed by the table, and then VALUES to specify that data is going into the table. To ensure that each record was successfully recorded, the SELECT * and WHERE CustomerID IN followed by each CustomerID recently inserted to return the records of each customer in the four new records.

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



```
INSERT INTO Orders VALUES (1204306, 100005, 'ADV-48-10F', 'Advanced Switch 10 GigE Copper/Fiber 44 port copper 4 port fiber');
    '> ');
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax
,'Advanced Switch 10 ' at line 1
mysql> INSERT INTO Orders VALUES (1204306,100005,'ADV-48-10F','Advanced Switch 10GigE Copper/Fiber 44 port copper 4 port fiber');
Query OK, 1 row affected, 1 warning (0.02 sec)

mysql> INSERT INTO Orders VALUES (1204307,100006,'ENT-24-10F','Enterprise Switch 10GigE SFP+ 24 Port');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Orders VALUES (1204308,100007,'ENT-48-10F','Enterprise Switch 10GigE SFP+ 48  Port');
Query OK, 1 row affected (0.02 sec)
```

```
mysql> SELECT * FROM Orders
    -> WHERE OrderID IN (1204305,1204306,1204307,1204308);
+---------+----------------+---------------+-----------------------------------------------------+
| OrderID | CollaboratorID | SKU           | Description                                         |
+---------+----------------+---------------+-----------------------------------------------------+
| 1204305 |         100004 | ADV-24-10C

;
 | Advanced Switch 10GigE Copper 24 port              |
| 1204306 |         100005 | ADV-48-10F    | Advanced Switch 10GigE Copper/Fiber 44 port copper |
| 1204307 |         100006 | ENT-24-10F    | Enterprise Switch 10GigE SFP+ 24 Port              |
| 1204308 |         100007 | ENT-48-10F    | Enterprise Switch 10GigE SFP+ 48  Port             |
+---------+----------------+---------------+-----------------------------------------------------+
4 rows in set (0.04 sec)

mysql> DELETE FROM Orders
    -> WHERE OrderID=1204305;
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Orders VALUES(1204305,100004,'ADV-24-10C','Advanced Switch 10GigE Copper 24 port');
Query OK, 1 row affected (0.03 sec)

mysql> SELECT * FROM Orders
    -> WHERE OrderID IN (1204305,1204306,1204307,1204308);
+---------+----------------+------------+-----------------------------------------------------+
| OrderID | CollaboratorID | SKU        | Description                                         |
+---------+----------------+------------+-----------------------------------------------------+
| 1204305 |         100004 | ADV-24-10C | Advanced Switch 10GigE Copper 24 port               |
| 1204306 |         100005 | ADV-48-10F | Advanced Switch 10GigE Copper/Fiber 44 port copper |
| 1204307 |         100006 | ENT-24-10F | Enterprise Switch 10GigE SFP+ 24 Port               |
| 1204308 |         100007 | ENT-48-10F | Enterprise Switch 10GigE SFP+ 48  Port              |
+---------+----------------+------------+-----------------------------------------------------+
4 rows in set (0.00 sec)
```

The INSERT INTO and VALUES were specified along with the orders table to specify that data values would be inserted into the table. Each value was included with or without parenthesis according to its datatype of INT or VARCHAR. Realizing that I inserted the first order record incorrectly, I deleted it and reinserted the record so that it was in the same format as the rest of the records.

- In the Customers table, perform a query to count all records where the city is Woonsocket, Rhode Island.

i. How many records are in the Customers table where the field “city” equals “Woonsocket”?

```
mysql> SELECT COUNT(*) From Customers WHERE City='Woonsocket' AND State='Rhode Island';
+----------+
| COUNT(*) |
+----------+
|        7 |
+----------+
1 row in set (0.01 sec)
```

In this command, I selected the Customers table and specified that the result was returned in a COUNT format. Additionally, the city and state were specified to equal Woonsocket and Rhode Island to eliminate all other records from the query result. This resulted in an answer of 7 records where the city is Woonsocket, Rhode Island.

- In the RMA database, update a customer’s records.
  i. 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> 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 (0.01 sec)

mysql> SELECT * FROM RMA WHERE OrderID=5175;
+-------+---------+--------------------------------+---------+------------+
| RMAID | OrderID | Step                           | Status  | Reason     |
+-------+---------+--------------------------------+---------+------------+
| 31405 |    5175 | Awaiting customer Documentation | Pending | Defective  |
+-------+---------+--------------------------------+---------+------------+
1 row in set (0.00 sec)
```

After reviewing the fields of the RMA table in the describe output, I then selected the table to query. When selecting it, I made sure to specify which record I wished to see, which was the record with the OrderID 5175. This returned the entire record with the status being pending and the step being 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 * FROM RMA WHERE OrderID=5175;
+-------+---------+------------------------+----------+------------+
| RMAID | OrderID | Step                   | Status   | Reason     |
+-------+---------+------------------------+----------+------------+
 |31405 |    5175 | Credit Customer Account | Complete | Defective
+-------+---------+------------------------+----------+------------+
1 row in set (0.00 sec)
```

In this screenshot, I utilized the update command to alter information within a field of a record with the OrderID of 5175. I used the SET operator to specify which rows would be updated and what the new values would be. I then used the WHERE operator to select which record would be altered, which contained the 5175 OrderID.

- Delete RMA records.
    i. Write an SQL statement to delete all records with a reason of “Rejected.”
        1. How many records were deleted?

```
mysql> SELECT COUNT(*) FROM RMA WHERE Reason LIKE '%Rejected%';
+----------+
| COUNT(*) |
+----------+
|      596 |
+----------+
1 row in set (0.01 sec)

mysql> DELETE FROM RMA WHERE Reason LIKE '%Rejected%';
Query OK, 596 rows affected (0.06 sec)
```

In the screenshot, I first returned the count of how many records were in the RMA table, which had the reason Rejected. This was done by making sure that the LIKE and % wildcard were utilized in case spelling or surrounding words/phrases prevented the selection of all counts. This returned 596 counts, so I knew how many rows should be affected after I ran the delete operator. The delete was used to eliminate records that had the word rejected within its reason field, and after using the same selection operators such as WHERE and FROM, the 596 rows which were identified were all 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> RENAME TABLE Customers TO Collaborators;
Query OK, 0 rows affected (0.02 sec)

mysql> ALTER TABLE Collaborators CHANGE CustomerID CollaboratorID INT(11) NOT NULL PRIMARY KEY;
ERROR 1068 (42000): Multiple primary key defined
mysql> ALTER TABLE Collaborators CHANGE CustomerID CollaboratorID INT(11);
ERROR 1025 (HY000): Error on rename of './QuantigrationUpdates/#sql-6f3_24' to './QuantigrationUpdates/Collaborators' (errno: 150)
mysql> ALTER TABLE Collaborators CHANGE CustomerID CollaboratorID;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax
mysql> ALTER TABLE Collaborators
    -> CHANGE CustomerID,
    -> CollaboratorID INT(11);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax
CollaboratorID INT(11)' at line 2
mysql> ALTER TABLE Collaborators
    -> CHANGE CustomerID
    -> CollaboratorID;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax
mysql> ALTER TABLE Orders
    -> CHANGE CustomerID
    -> CollaboratorID;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax
mysql> ALTER TABLE Customers, Orders
    -> CHANGE CustomerID
    -> CollaboratorID;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax
CHANGE CustomerID
CollaboratorID' at line 1
```

```
mysql> ALTER TABLE Orders DROP FOREIGN KEY CustomerID;
ERROR 1025 (HY000): Error on rename of './QuantigrationUpdates/Orders' to './QuantigrationUpdates/#sql2-6f3-24' (errno: 152)
mysql> ALTER TABLE Orders DROP FOREIGN KEY;
ERROR 1005 (HY000): Can't create table 'QuantigrationUpdates.#sql-6f3_24' (errno: 150)
mysql> ALTER TABLE Collaborators CHANGE CustomerID CollaboratorID INT(11);
ERROR 1025 (HY000): Error on rename of './QuantigrationUpdates/#sql-6f3_24' to './QuantigrationUpdates/Collaborators' (errno: 150)
mysql> ALTER TABLE
    -> ;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax
mysql> ALTER TABLE Collaborators
    -> DROP PRIMARY KEY;
ERROR 1025 (HY000): Error on rename of './QuantigrationUpdates/#sql-6f3_24' to './QuantigrationUpdates/Collaborators' (errno: 150)
mysql> Describe Collaborators;
+------------+-------------+------+-----+---------+-------+
| 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(25) | YES  |     | NULL    |       |
| Telephone  | varchar(15) | YES  |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
8 rows in set (0.00 sec)
```

snhu

```
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> ALTER TABLE Orders
    -> DROP FOREIGN KEY;
ERROR 1005 (HY000): Can't create table 'QuantigrationUpdates.#sql-6f3_24' (errno: 150)
mysql> ALTER TABLE RMA
    -> DROP FOREIGN KEY;
ERROR 1005 (HY000): Can't create table 'QuantigrationUpdates.#sql-6f3_24' (errno: 150)
mysql> SET FOREIGN_KEY_CHECKS = 0;
Query OK, 0 rows affected (0.02 sec)

mysql> ALTER TABLE Orders CHANGE CustomerID CollaboratorID int(11);
ERROR 1025 (HY000): Error on rename of './QuantigrationUpdates/#sql-6f3_24' to './QuantigrationUpdates/Orders' (errno: 150)
mysql> ALTER TABLE Orders CHANGE CustomerID TO CollaboratorID INT(11);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax
mysql> ALTER TABLE Orders CHANGE CustomerID CollaboratorID INT(11);
ERROR 1025 (HY000): Error on rename of './QuantigrationUpdates/#sql-6f3_24' to './QuantigrationUpdates/Orders' (errno: 150)
mysql> ALTER TABLE Orders DROP FOREIGN KEY CustomerID;
ERROR 1025 (HY000): Error on rename of './QuantigrationUpdates/Orders' to './QuantigrationUpdates/#sql2-6f3-24' (errno: 152)
mysql> SHOW CREATE TABLE Orders;
```

```
+--------+----------------------------------------------------------------------
------------------------------------------------------------------------------+
| Table  | Create Table
                                                                              |
+--------+----------------------------------------------------------------------
------------------------------------------------------------------------------+
| Orders | CREATE TABLE `Orders` (
  `OrderID` int(11) NOT NULL,
  `CustomerID` int(11) DEFAULT NULL,
  `SKU` varchar(20) DEFAULT NULL,
  `Description` varchar(50) DEFAULT NULL,
  PRIMARY KEY (`OrderID`),
  KEY `CustomerID` (`CustomerID`),
  CONSTRAINT `Orders_ibfk_1` FOREIGN KEY (`CustomerID`) REFERENCES `Collaborators` (`CustomerID`)
) ENGINE=InnoDB DEFAULT CHARSET=latin1 |
+--------+----------------------------------------------------------------------
------------------------------------------------------------------------------+
1 row in set (0.00 sec)

mysql> ALTER TABLE Orders DROP FOREIGN KEY Orders_ibfk_1;
Query OK, 37998 rows affected (0.85 sec)
Records: 37998  Duplicates: 0  Warnings: 0

mysql> ALTER TABLE Orders CHANGE CustomerID CollaboratorID INT(11);
Query OK, 37998 rows affected (0.59 sec)
Records: 37998  Duplicates: 0  Warnings: 0
```

```
mysql> SHOW CREATE TABLE Collaborators;
+---------------+---------------------------------------------------------------
---------------------------------------------------------------------------------
| Table         | Create Table

+---------------+---------------------------------------------------------------
---------------------------------------------------------------------------------
| Collaborators | CREATE TABLE `Collaborators` (
  `CustomerID` int(11) NOT NULL,
  `FirstName` varchar(25) DEFAULT NULL,
  `LastName` varchar(25) DEFAULT NULL,
  `Street` varchar(50) DEFAULT NULL,
  `City` varchar(50) DEFAULT NULL,
  `State` varchar(25) DEFAULT NULL,
  `ZipCode` varchar(25) DEFAULT NULL,
  `Telephone` varchar(15) DEFAULT NULL,
  PRIMARY KEY (`CustomerID`)
) ENGINE=InnoDB DEFAULT CHARSET=latin1 |
+---------------+---------------------------------------------------------------
---------------------------------------------------------------------------------
1 row in set (0.00 sec)

mysql> ALTER TABLE Collaborators
    -> CHANGE CustomerID CollaboratorID INT(11);
Query OK, 37998 rows affected (0.50 sec)
Records: 37998  Duplicates: 0  Warnings: 0

mysql> describe collaborators;
ERROR 1146 (42S02): Table 'QuantigrationUpdates.collaborators' doesn't exist
mysql> describe Collaborators;
+----------------+-------------+------+-----+---------+-------+
| 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(25) | YES  |     | NULL    |       |
| Telephone      | varchar(15) | YES  |     | NULL    |       |
+----------------+-------------+------+-----+---------+-------+
8 rows in set (0.00 sec)
```

```
mysql> describe Orders;
+----------------+-------------+------+-----+---------+-------+
| 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)

mysql> ALTER TABLE Orders ADD CONSTRAINT Orders_ibfk_1 FOREIGN KEY (CollaboratorID)
    -> REFERENCES Collaborators (CollaboratorID);
Query OK, 37998 rows affected (0.56 sec)
Records: 37998  Duplicates: 0  Warnings: 0

mysql> SET FOREIGN_KEY_CHECKS = 1;
Query OK, 0 rows affected (0.04 sec)
```

```
mysql> SELECT COUNT(*) FROM Customers INNER JOIN Orders ON Orders.CollaboratorID=Collaborators.CollaboratorID WHERE City='Framingham' AND State='Massachusetts';
ERROR 1146 (42S02): Table 'QuantigrationUpdates.Customers' doesn't exist
mysql> SELECT COUNT(*) FROM Collaborators INNER JOIN Orders ON Orders.CollaboratorID=Collaborators.CollaboratorID WHERE City='Framingham' AND State='Massachusetts';
+----------+
| COUNT(*) |
+----------+
|      505 |
+----------+
1 row in set (0.23 sec)
```

I first changed the name of Customer Table to Collaborators through the Rename Command and attempted to do so with the two key fields. I tried and failed numerous times to accomplish this, and after consulting with the book, I realized that I first had to remove the key's dependencies on each other. Neither the DROP PRIMARY KEY and DROP FOREIGN KEY commands were working, so I had to investigate further through online forums and YouTube videos until I discovered that I was not completing the full command of the DROP FOREIGN/PRIMARY KEY, which required the constraint identifier found using the CREATE TABLE command. After utilizing the CREATE TABLE command for the Orders, I dropped the foreign key named Orders_ibfk_1. Then I used the Alter table to change each customer instance to collaborator now that the relational key was removed. I ran a previous command to prove that the foreign key in Orders still referenced Collaborators. I also ran a SET_FOREIGN _KEY_CHECKS command, but I don't believe it did anything.

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 OrderID,CollaboratorID,SKU,Description INTO OUTFIELD '/home/codio/workspace/ProjectOneOrders.csv' FIELDS TERMINATED BY ',' FROM Orders;
ERROR 1327 (42000): Undeclared variable: OUTFIELD
mysql> SELECT OrderID,CollaboratorID,SKU,Description INTO OUTFILE '/home/codio/workspace/ProjectOneOrders.csv' FIELDS TERMINATED BY ',' FROM Orders;
Query OK, 37998 rows affected (0.04 sec)
```

Since an Orders.csv and an OrdersTable.csv already existed within Codio, I planned on naming this outfield ProjectOneOrders.csv. This was done by selecting each field within the Orders Table to output from the OrderID to the Description section, and then running the INTO OUTFILE command followed by the address of codio. Fields Terminated was also stated to ensure that each field within the file was distinguished with the , value.