**CCGC 5004 Database Systems**

**Midterm Exam Winter 2023**

**Overview**

**In this exercise you will use the schema below to execute the queries listed.**

Graphical user interface, diagram

Description automatically generated

**All the SQL code for each answer must be shown. If any of the code is not showing a grade of 0 will be given for the question. If you need multiple screen captures to show complete code that is OK.**

**Label all questions with the question number.**

**Question 1**

Which customers purchased a Gibson Les Paul, or a Washburn D10S?

Display the customer’s last name concatenated to their first name with a comma and space separating them. Also show the ship date product name and category name. Sort the result in ascending sequence based on the customer’s last name then on the first name (not the concatenated value, use individual columns). (Screen Capture 1)

**Question 2**

How many orders are there for each product? Only show orders only for the Guitars and Drums categories. Only display the rows where the count of orders is greater than 1. Sort the output on Product Name descending. (Screen Capture 2)

**Question 3**

Create the following tables. Define any requested constraints to the tables. (Screen Capture 3A and 3B)

Table Name: CRIMINALS

|  |  |  |
| --- | --- | --- |
| Column Name | Data Type | Constraints |
| Criminal\_id | Numeric | PK |
| Last\_name | Variable data | Not NULL |
| First\_name | Variable data | Not NULL |
| Street | Variable data |  |
| City | Variable data |  |
| State | Fixed 2 characters | DEFAULT ON (Code for Ontario) |
| Postal\_code | Fixed 7 characters |  |
| Phone | Fixed 10 characters |  |
| Date\_created | DATE |  |

Table Name: CRIMES

|  |  |  |
| --- | --- | --- |
| Crime\_id | Numeric | PK |
| Criminal\_id | Numeric | FK to Criminals |
| Classification | Fixed 1 character |  |
| Date\_charged | DATE |  |
| Status | Fixed 2 characters |  |
| Hearing\_date | DATE |  |
| Appeal\_date | DATE |  |

**Question 4**

Display a list of customers that have a shipping address and billing address in any of the following states, NE, OR, or CO. Display the last name and first name of the customer, line1, city and state of the address. Display the results in ascending sequence on the state. (Screen Capture 4)

**Question 5**

Display the product\_id and total price (Item\_price \* quantity) from the products table. Only display the rows where the value is greater than the average quantity \* item\_price. Display the result so only the top 5 rows of quantity \* item\_price is displayed. (Screen Capture 5)

**Question 6**

Insert the following rows to the CRIMINALS table using a single statement.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CRIMINAL\_ID | LAST\_NAME | FIRST\_NAME | STREET | CITY | POSTAL\_CODE | PHONE | DATE\_CREATED |
| 100 | Dwyer | Barb | 200 Any St. | Toronto | M5T 7R8 | 4166756622 | Feb 2 2022 |
| 101 | O’Shea | Rick | 345 Why St. | Oshawa | L6T 5D6 | 9056453211 | Feb 14 2022 |

Show the commands you used to add the rows and the command to verify the new rows are there. (Screen Capture 6)

**Question 7**

Update the second row for Rick O’Shea. Change the POSTAL\_CODE to L4T 6R7.

Verified it is changed. Show the commands to modify the row and to verify it was changed. (Screen Capture 7)

**Question 8**

Start a transaction and delete the first 2 rows that were entered into the CRIMINALS table.

Show it is removed. (Screen Capture 8)

Recover the deleted rows from the CRIMINALS table.

Show it is recovered. (Screen Capture 9)

**Question 9**

Drop both the CRIMINALS and CRIMES tables. (Screen Capture 10)