**Portfolio Project**

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ITS410 – Database Management

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**Overview of Queries**

The queries created for the portfolio project do a great job of encompassing all of the topics we have covered in MySQL during this course. To start, the first query uses a SELECT statement to include several product columns as well as a value called ‘discount\_amount’ that calculated the proper amount of discount to be applied and a value called ‘discount\_price’ that calculated the price of the product after applying the discount; both calculated values are rounded to the proper decimal place with the ROUND statement. Next, the second SELECT query includes columns from the order\_items table and then calculates the ‘the price total’, ‘the discount total’, and ‘the item total’ value given the quantity of items ordered. Following, the third SELECT query shows the products with the same price by using an inner join statement. Then, the fourth query returns the NULL category in the table being the ‘keyboards’ category as it has not been used in products before. After, the fifth query uses the INSERT INTO statement to define the information to be added, email address, password (blank), first name, and last name for the customer, Rick Raven; a SELECT statement for the customer table is then included to show the new entry once it is added. Later, the sixth query selects the two customers who have ordered more than one product from the guitar shop by their email addresses. Next, the seventh query gives the product total price given the quantity and listed price of products in different categories with the grand total being displayed as the product labeled ‘Total’. To finish, the eight requirement begins by having a user added to the my\_guitar\_shop database named ‘LMills’ on the local host and then has specific privileges added for the various tables. Once finished, the SHOW GRANTS statement is used to output the privileges that I granted for this newly added user.

**Lessons Learned**

While there were many key concepts covered during this course, there are several main takeaways that I will be using in my future database endeavors in MySQL including how to create a procedure and function, manipulate data being stored in a table, and add new entries into an existing database. MySQL includes many built-in statements that a user can call upon to easily manipulate data or allow for the user to define their own specific process for the database.

A user can create their own procedure with the SQL statement CREATE PROCEDURE followed by the name and parameters; within the BEGIN and END keywords, the user can define a block of code to perform a specific process. Similarly, a user can define their own functions in MySQL with the CREATE FUNCTION statement also followed by the name and required parameters. However, a function will ultimately return a value, so the datatype of the returned value has to be declared during initialization with the keyword RETURNS datatype. Following the function’s definition, the line ‘DETERMINISTIC READS SQL DATA’ must be included before writing the execution block, which must include a RETURN statement. Then, the user-created procedure or function can be called upon in a query with the CALL statement accompanied by the appropriate name and parameters.

Of course, there are numerous ways to manipulate data in MySQL, but the most vital functions in the program include selecting, updating, and deleting entries in tables. The SELECT statement is versatile as it can be used to simply obtain information from a table or perform complex operations by using a join to combine information from multiple tables within a database. Next, the UPDATE statement can be used to change current entries in a table. The user first declares which table needs to be updated with the statement ‘UPDATE table\_name’, then SET the columns to the corrected values, and finally tell the program which entries to change with the WHERE statement. Finally, rows can be removed from the database with the DELETE statement in MySQL. The user just needs to declare the table where the deletion will be performed followed by a WHERE with a search condition to select entries.

Adding information to a database is an essential everyday task that is vital to know how to do. In MySQL, the INSERT statement is used for adding new rows of information to a table. A user calls upon the INSERT INTO statement followed by the table’s name; then, the inputted values are defined in a VALUES statement with each value separated by commas contained within a set of parentheses (Murach, 2019).

**Queries**

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**Reference**

Murach, J. (2019). *Murach’s MySQL (3rd Edition)* (3rd ed.) [E-book]. Mike Murach & Associates. <https://platform.virdocs.com/r/s/0/doc/664236/sp/179163302/mi/571165735?cfi=%2F4%2F4>