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IT2351 – Enterprise Database Systems

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Assignment 7

1. If you were assigned the task of deleting a customer from the customers table as a DBA, explain the logic you would implement to accomplish this task via a stored program in a PDF file named Assignment7. Include the type of stored program and the steps that would be required (keep in mind the relationships between the tables).

(Implementation included on Github)

I would use a stored procedure to delete a customer from the customers table. First I would change the delimiter to double front slashes and create a procedure named 'delete_a_customer', then call the stored procedure with the name of the customer as a parameter. As it is important to make sure all of that customer's data in each table is also deleted, I would delete that customer's data from Addresses and Orders tables, as the customer_id is the foreign key for both of those. Next, as a customer's order's data is also on the order_items table (foreign key is order_id), I would have to delete all of that customer's order data as well. Finally, I would use a condition handler to make sure the procedure continues when an error is encountered. After the stored program is created, you can call it with the customer_id of the customer you want to delete in the parameter.

4. If the guitar database was used in a production environment, explain the following:

a. Circumstances for implementing each of the four privilege levels.

b. How you would group the privileges into roles.

The four privilege levels are global, database, table, and column. Administrative privileges enable users to manage operation of the MySQL server, and they are global because they are not specific to a particular database. Database privileges are specific to a database and all objects within it, and can be granted for specific databases or globally (for all databases).

Privileges for database objects such as tables, indexes, views, and stored routines can be granted for specific objects within a database, for all objects of a given type within a database, or globally for all objects of a given type in all databases. Table privileges provide a user access only to specific columns on a specified table, and column privileges provide a user access only to specific columns on specific tables.

When you assign a user to a particular role (collection of privileges), you grant them all of the privileges associated with that role. System privileges allow a user to perform a particular database operation or class of database operations, and as they are incredibly powerful, must be carefully restricted and allowed only for DBAs and other administrators. Object privileges are used to perform some action on a database object (such as SELECT, INSERT, DELETE, etc).