Lab 9: Views & Triggers (8% of total grade)

Submission: Use the included .sql file to put your answers in, then upload only the SQL file to Blackboard (Assessments > Lab 9 - Views & Triggers).

Name your file: HTTP5126-L9-ViewsTriggers-*LastNameFirstName*.SQL, replace *LastNameFirstName* with your name as displayed in Blackboard.

Purpose: To practice and understand views and triggers using SQL.

Requirements: For this assignment, use the provided lab_9_pet_store_tables.sql data tables.

NOTE: *One of your queries will result in an error, this is expected, review the stock_items CREATE TABLE code to deduce why.*

When you have completed the lab and are testing your sql file using the import/execute feature of the client, make sure to uncheck the "Stop on error" option.

Pre-Lab

1. Start your mySQL server and open phpMyAdmin or Adminer.
2. Create a database for this lab (eg. http5126_lab9). Set the collation as utf8_unicode_ci.
3. Import and execute the the lab_9_pet_store_tables.sql file on your database.

Part 1: Views (1.5%)

A. The inventory department wants a list of low inventory items. Create a view with items that have 20 or less in stock. Name the view stock_items_under_twenty. Include the category, item name and inventory. (1%)
B. Select all the values in the view that was created in part 1A. (0.25%)
C. Select all the values from the stock_items_under_twenty that are out of stock. (0.25%)

Part 2: Views 2 - Electric Boogaloo (1.5%)

A. The manager has requested a list of all sales employees who have made sales. Create a view showing their name (first and last name) and each employee's "Total Sales ($)" by descending order (highest sales at the top). Name the view sales_total_by_employee. (1%)
B. Select all the values in the view that was created in part 2A. (0.25%)
C. Select all the information from the sales_total_by_employee view, only for employees with over $1000 in "Total Sales ($)". (0.25%)

Hint: We can reuse an alias later in the same query using the backtick character (`)

Part 3: Triggers (1.5%)

A. Create a trigger that will deduct 1 from the inventory of an item in the stock_items table when a sale is made for that item. (1%)
B. Insert a sale into the sales table for any item. Be sure to include all the values. (0.25%)
C. Insert a sale into the sales table for the 'Luxury cat bed' item. (0.25%)

Part 4: Triggers 2 - Double the Triggers, Double the SQL (3%)

In this part you will create 3 triggers that will log changes that occur to items in the stock_items table. The logs will be stored in the stock_items_log table, which will have the following fields: action, item_id, old_item, old_price, old_inventory, old_category, and timestamp. Action will be a string value of the event that occurred (Insert, Update, Delete). The table was created when you ran the lab_9_tables file on your database.

A. Create an INSERT trigger that will record the action, item_id, and timestamp when a new record is added to the stock_items table. Unused fields should be NULL. (1%)
B. Create an UPDATE trigger that will record the action, item_id, all the old values for that item, and a timestamp when a record is updated in the stock_items table. (1%)
C. Create a DELETE trigger that will record the action, item_id, all the old values for that item, and a timestamp when a record is removed from the stock_items table. The item_id should be the id of the item that was deleted. (1%)

Part 5: Testing (0.5%)

A. Run the SQL scripts provided in part 5A of the answers file provided. (0.25%)
B. Create a query to select all the logs from the stock_items_log table for the item with item_id 1025. (0.25%)