CS2443 – SQL Server Assignment 8

How to code stored procedures, functions, and triggers

Total Points: 100

Write the code for each of the following and save the scripts as a script file or as a text file and upload the file to Moodle. Each question is worth 20 points

1. Write a script that creates and calls a function named fnDiscountPrice that calculates the discount price of an item in the OrderItems table (discount amount subtracted from item price). To do that, this function should accept one parameter for the item ID, and it should return the value of the discount price for that item.
2. Write a script that creates and calls a function named fnItemTotal that calculates the total amount of an item in the OrderItems table (discount price multiplied by quantity). To do that, this function should accept one parameter for the item ID, it should use the DiscountPrice function that you created in Question 1, and it should return the value of the total for that item.
3. Write a script that creates and calls a stored procedure named spInsertProduct that inserts a row into the Products table. This stored procedure should accept five parameters. One parameter for each of these columns: CategoryID, ProductCode, ProductName, ListPrice, and DiscountPercent.

   This stored procedure should set the Description column to an empty string, and it should set the DateAdded column to the current date.

   If the value for the ListPrice column is a negative number, the stored procedure should raise an error that indicates that this column doesn't accept negative numbers. Similarly, the procedure should raise an error if the value for the DiscountPercent column is a negative number.

   Code at least two EXEC statements that test this procedure.
4. Create a trigger named Products_UPDATE that checks the new value for the DiscountPercent column of the Products table. This trigger should raise an appropriate error if the discount percent is greater than 100 or less than 0.

   If the new discount percent is between 0 and 1, this trigger should modify the new discount percent by multiplying it by 100. That way, a discount percent of .2 becomes 20.

   Test this trigger with an appropriate UPDATE statement.
5. Create a table named ProductsAudit. This table should have all columns of the Products table, except the Description column. Also, it should have an AuditID column for its primary key, and the DateAdded column should be changed to DateUpdated.

   Create a trigger named Products_UPDATE. This trigger should insert the old data about the product into the ProductsAudit table after the row is updated. Then, test this trigger with an appropriate UPDATE statement.