Lab 7

Due Nov 24, 2020 by 11:59pm **Points** 10 **Submitting** a file upload **File Types** sql
Available until Dec 16, 2020 at 11:59pm

This assignment was locked Dec 16, 2020 at 11:59pm.

Labs 4 to 7 are SQL scripts; if they do not run in their entirety without error, they will be graded 0.

Statement of Authorship

- Lab to be done individually
- In order to be graded, the following Statement of Authorship must be present at the beginning of the script
- I, Firstname Lastname, student number 123456789, certify that this material is my original work. No other person's work has been used without due acknowledgment and I have not made my work available to anyone else.
- Replace Firstname Lastname with your name and 123456789 with your student number

Introduction

- Start SQL Server and SQL Server Management Studio, see **lab 0** for instructions on how to use SQL Server and SSMS
- Use your script from lab 4 (co859.sql) as the starting point, make a copy of it
- In SQL Server Management Studio, change output to text (Query menu / Results To / Results to Text); this will allow the PRINT statements to appear in the results
- Add the new code to the end of the script
- Ensure the comment heading block has the following:
  - Script name
  - Your name
  - Date
  - Description
- **Statement of authorship must be present and updated with your name and student number, or your work will not be graded**

Overview

In this lab, you will create 3 triggers, one for INSERT, one for UPDATE and one for DELETE. The triggers will be applied to the tables you created in lab 4. Remember that in lab 4 you created a master table and a sales table.

Triggers

Recall that you have a master table (customers, items, or *description_services*) and a sales table. In the master table, there is a column that holds “year to date sales” and in the sales table there is a sales amount column. The value in "year to date sales” is actually the sum of all the sales amounts throughout the year for a particular customer or item or service.

After an INSERT/DELETE/UPDATE of a sales row, UPDATE the "year to date sales” value in the associated row in the master table. For simplicity, you may assume that your trigger only needs to handle the inserting/deleting/updating of one row at a time. A bonus mark will be added if your trigger can handle multiple rows being inserted/deleted/updated.

An example would clarify the matter. Suppose you had a customer record who’s “year to date sales” amount was 50,000.00 and a new sales record was stored in the database for that customer. If the sales amount for the sales record were 2,500.00 then after the INSERT of the sales record, the “year to date sales” value would be UPDATEd to 52,500.00.

Add a GO statement after each trigger creation or SQL Server will incorrectly interpret the remaining code as part of the current trigger.

Verify Triggers Work

Add the following code to your script and complete it. This will test the triggers.

```
-- Verification
PRINT 'Verify triggers'
PRINT 'Master Table Before Changes'
SELECT all rows and columns from the master table
INSERT a row into the sales table (ensure transaction amount is not zero, pick a large or unusual amount)
PRINT 'After INSERT'
SELECT all rows and columns from the master table
DELETE the row that just got inserted in the sales table
T 'After DELETE'
CT all rows and columns from the master table
UPDATE the transaction amount in one row in the sales table (ensure transaction amount is not zero, pick a la
rge or unusual amount, this will make it stand out in the output)
PRINT 'After UPDATE'
SELECT all rows and columns from the master table
```

Marks will be deducted if:

- Comment block is incomplete or incorrect
- Database created is not named co859
- Any of the SQL statements are not identified with a comment
- Any of the SELECTs are not identified with PRINT statements
- Any necessary GO statements missing

Lab 7

Criteria	Ratings			Pts
INSERT trigger	**2 pts** **Full Marks**	**1 pts** **Partial Marks**	**0 pts** **No Marks**	2 pts
DELETE trigger	**2 pts** **Full Marks**	**1 pts** **Partial Marks**	**0 pts** **No Marks**	2 pts
UPDATE trigger	**2 pts** **Full Marks**	**1 pts** **Partial Marks**	**0 pts** **No Marks**	2 pts
Output of the master table before all changes	**1 pts** **Full Marks**	**0.5 pts** **Partial Marks**	**0 pts** **No Marks**	1 pts
Output of the master table after INSERT	**1 pts** **Full Marks**	**0.5 pts** **Partial Marks**	**0 pts** **No Marks**	1 pts
Output of the master table after DELETE	**1 pts** **Full Marks**	**0.5 pts** **Partial Marks**	**0 pts** **No Marks**	1 pts
Output of the master table after UPDATE	**1 pts** **Full Marks**	**0.5 pts** **Partial Marks**	**0 pts** **No Marks**	1 pts
				Total Points: 10