DUE DATE: Wednesday November 9th, 2016 - This is an individual assignment – LATE SUBMISSIONS WILL NOT BE ACCEPTED

Please Submit:

(a) hard copy of your assignment at the beginning of class on the due date, and

(b) upload soft/electronic copy of all parts of this assignment in a ZIP archive called "asg4YourName.ZIP" to Assignment 4 in Moodle System by 11:55pm on or before the due date.

Part 1: (50 points)

The purpose of this assignment is to master the design of stored procedures. Use the script files HenryPSQL and HenryInventory to create the Henry Book Store database in your MySQL Database Server.

Submit your stored procedure SQL Statements in a Word (.docx) file along with the output and the other components of this assignments in ZIP archive.

Write a stored procedure (spGetAllPubStatsFL, where F and L refer to your first and last name) and load it into your MySQL Database where you also created the Henry Book Store database tables. The stored procedure is to output various statistics for all publishers in the database. This stored procedure will call another stored procedure named (spGetPubStatsFL) that accepts a publisher code as input and returns the required statistics only if the given publisher code exists (Notify the user if the publisher code does not exist). The information output is:

- The name of the publisher.
- The number of distinct authors who have written book(s) for this publisher.
- The number of different books published by this publisher.
- The title of the book published by this publisher that has the highest number of onHand values collectively in all branches of Henry Books.
- The number of onHand values for the above book.
- The cumulative sum of onHand values from all branches for all books published by this publisher.

Stored procedure spGetAllPubStatsFL() should create a permanent database table in which it stores the results returned by stored procedure spGetPubStatsFL() for each Publisher code defined in the Publisher table. Every time spGetAllPubStatsFL() is invoked, it should clean up the permanent table before it invokes spGetPubStatsFL().

Make sure to test both stored procedures and include the resulting output in your deliverables, clearly illustrating input parameter values and the returning output parameter values for each test case.

Your stored procedures should be very well documented including, but not limited to, your identification as well as certification that the submitted work is your own.

Part 2: (50 points)

The purpose of this assignment is to master the design of triggers. Use the script files HenryPSQL and HenryInventory to create the Henry Book Store database in your MySQL Database Server.

Submit your triggers SQL Statements and any auxiliary/helper DB objects necessary for this part of the assignment in a Word (.docx) file along with the output and the other components of this assignments in ZIP archive.

In this part of the assignment, you are to develop a historical auditor to keep track of changes (inserts, updates and deletes) made to the data stored in any of the tables of the Henry Book Store Database using triggers, stored procedures or user defined functions as you see fit an necessary to achieve this task.

Create a new table “HistoricalAudit” in which to store history of changes performed on any of the tables of the Henry Books Store database. The new table should include the following columns, each of which should be defined with an adequate data type:

- Table name
- Column Name
- Action
- OldValue
- NewValue
- UserId
- LogTimestamp

Create proper indexes in this table to speed up queries based on, for example, (LogTimestamp DESC, UserId, Table Name, Column Name, Action), (Table Name, Column Name, Action, LogTimestamp DESC), etc and any others you consider useful.

For each table of the Henry Book Store Database, write the necessary triggers for the appropriate events (inserts, updates and deletes) to capture data changes to any of columns of a table into the "HistoricalAudit" table.

Make sure to test your triggers and verify their correctness by inspecting the audit trail information captured in the "HistoricalAudit" table, and include results in your deliverables.

Your triggers should be very well documented including, but not limited to, your identification as well as certification that the submitted work is your own.

Good Luck !!!
Jose F. Osorio

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