APPLICATION SOFTWARE DEVELOPMENT LAB

Submitted by,

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Roll no: 16

EXPERIMENT : 15

DATE : 26/10/2020

AIM : Creation of database Triggers and Cursors.

DESCRIPTION :

TRIGGERS

- In MySQL, a trigger is a stored program invoked automatically in response to an event such as insert, update, or delete that occurs in the associated table.
- MySQL supports only row-level triggers. It doesn't support statement-level triggers.
- A row-level trigger is activated for each row that is inserted, updated, or deleted.
- Advantages:

- Triggers provide another way to check the integrity of data.
- Triggers handle errors from the database layer.
- Triggers give an alternative way to run scheduled tasks. By using triggers, you don't have to wait for the scheduled events to run because the triggers are invoked automatically *before* or *after* a change is made to the data in a table.
- Triggers can be useful for auditing the data changes in tables.
- Disadvantages of triggers

- Triggers can only provide extended validations, not all validations. For simple validations, you can use the NOT NULL, UNIQUE, CHECK and FOREIGN KEY constraints.
- Triggers can be difficult to troubleshoot because they execute automatically in the database, which may not invisible to the client applications.
- Triggers may increase the overhead of the MySQL Server.

CURSORS

- To handle a result set inside a stored procedure, you use a cursor. A cursor allows you to iterate a set of rows returned by a query and process each row individually.

- MySQL cursor is read-only, non-scrollable and asensitive.

- **Read-only**: you cannot update data in the underlying table through the cursor.
- **Non-scrollable**: you can only fetch rows in the order determined by the SELECT statement. You cannot fetch rows in the reversed order. In addition, you cannot skip rows or jump to a specific row in the result set.
- **Asensitive**: there are two kinds of cursors: asensitive cursor and insensitive cursor. An asensitive cursor points to the actual data, whereas an insensitive cursor uses a temporary copy of the data. An asensitive cursor performs faster than an insensitive cursor because it does not have to make a temporary copy of data. However, any change that made to the data from other connections will affect the data that is being used by an asensitive cursor, therefore, it is safer if you do not update the data that is being used by an asensitive cursor. MySQL cursor is asensitive.
- You can use MySQL cursors in stored procedures, stored functions, and triggers.

- **EXECUTION STEPS:**

  Execute the batch script for the 15th Experiment (exp15.txt) using either of the following commands to create the data tables

  a. mysql> source exp15.txt

  b. mysql> \. exp15.txt