

Third Year B. Tech (EL & CE)

Semester: V

Subject: Data Base Management System

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Class: TY

Roll No: 52

Batch: A3

Experiment No: 09

Name of the Experiment: SQL commands

Performed on: 30/11/2023

Submitted on: 30/11/2023

Problem Statement:

SQL Triggers and Cursors

Code:

```
MySQL 8.0 Command Line Client
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 13
Server version: 8.0.34 MySQL Community Server - GPL

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> CREATE DATABASE LibraryDB;
Query OK, 1 row affected (0.00 sec)

mysql> USE LibraryDB;
Database changed
mysql> CREATE TABLE books (
  ->   book_id INT PRIMARY KEY,
  ->   title VARCHAR(255),
  ->   author VARCHAR(255),
  ->   total_books INT,
  ->   available_books INT
  -> );
Query OK, 0 rows affected (0.01 sec)

mysql> INSERT INTO books VALUES (1, 'The Great Gatsby', 'F. Scott Fitzgerald', 5, 5);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO books VALUES (2, 'To Kill a Mockingbird', 'Harper Lee', 3, 3);
Query OK, 1 row affected (0.00 sec)

mysql> DELIMITER //
mysql> CREATE TRIGGER update_total_books
  -> BEFORE INSERT ON books
  -> FOR EACH ROW
  -> BEGIN
  ->   SET NEW.total_books = NEW.total_books + NEW.available_books;
  -> END;
  -> //
Query OK, 0 rows affected (0.00 sec)

mysql> DELIMITER ;
mysql> INSERT INTO books VALUES (3, '1984', 'George Orwell', 10, 10);
Query OK, 1 row affected (0.00 sec)

mysql> DELIMITER //
mysql> CREATE PROCEDURE display_books()
  -> BEGIN
```

```
MySQL 8.0 Command Line Client
-> FOR EACH ROW
-> BEGIN
->   SET NEW.total_books = NEW.total_books + NEW.available_books;
-> END;
-> //
Query OK, 0 rows affected (0.00 sec)

mysql> DELIMITER ;
mysql> INSERT INTO books VALUES (3, '1984', 'George Orwell', 10, 10);
Query OK, 1 row affected (0.00 sec)

mysql> DELIMITER //
mysql> CREATE PROCEDURE display_books()
-> BEGIN
->   DECLARE done INT DEFAULT 0;
->   DECLARE bookTitle VARCHAR(255);
->   DECLARE bookAuthor VARCHAR(255);
->   DECLARE totalBooks INT;
->   DECLARE availableBooks INT;
->
->   DECLARE cur CURSOR FOR SELECT title, author, total_books, available_books FROM books;
->   DECLARE CONTINUE HANDLER FOR NOT FOUND SET done = 1;
->
->   OPEN cur;
->
->   read_loop: LOOP
->     FETCH cur INTO bookTitle, bookAuthor, totalBooks, availableBooks;
->     IF done THEN
->       LEAVE read_loop;
->     END IF;
->
->     -- Display book information
->     SELECT CONCAT('Title: ', bookTitle, ', Author: ', bookAuthor, ', Total Books: ', totalBooks, ', Available Books: ', availableBooks) AS BookInfo;
->   END LOOP;
->
->   CLOSE cur;
-> END;
-> //
Query OK, 0 rows affected (0.00 sec)

mysql> DELIMITER ;
mysql> CALL display_books();
+-----+
| BookInfo |
+-----+
| Title: The Great Gatsby, Author: F. Scott Fitzgerald, Total Books: 5, Available Books: 5 |
+-----+
1 row in set (0.00 sec)
```

```
MySQL 8.0 Command Line Client
->   DECLARE CONTINUE HANDLER FOR NOT FOUND SET done = 1;
->
->   OPEN cur;
->
->   read_loop: LOOP
->     FETCH cur INTO bookTitle, bookAuthor, totalBooks, availableBooks;
->     IF done THEN
->       LEAVE read_loop;
->     END IF;
->
->     -- Display book information
->     SELECT CONCAT('Title: ', bookTitle, ', Author: ', bookAuthor, ', Total Books: ', totalBooks, ', Available Books: ', availableBooks) AS BookInfo;
->   END LOOP;
->
->   CLOSE cur;
-> END;
-> //
Query OK, 0 rows affected (0.00 sec)

mysql> DELIMITER ;
mysql> CALL display_books();
+-----+
| BookInfo |
+-----+
| Title: The Great Gatsby, Author: F. Scott Fitzgerald, Total Books: 5, Available Books: 5 |
+-----+
1 row in set (0.00 sec)

+-----+
| BookInfo |
+-----+
| Title: To Kill a Mockingbird, Author: Harper Lee, Total Books: 3, Available Books: 3 |
+-----+
1 row in set (0.01 sec)

+-----+
| BookInfo |
+-----+
| Title: 1984, Author: George Orwell, Total Books: 20, Available Books: 10 |
+-----+
1 row in set (0.02 sec)

Query OK, 0 rows affected (0.03 sec)

mysql>
```



Dr. Vishwanath Karad

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