

Create a Java program using JDBC to insert a new product into the Products table and then implement a trigger in the database that updates the LastModified timestamp in the Product_Metadata table whenever a product is added or modified. [Hint: Create products and Product_Metadata table. Create trigger using JDBC. Run insert query using MySQL command line client.]

```
mysql> use dbmsdemo;
Database changed
mysql> CREATE TABLE Products (
  ->     ProductID INT PRIMARY KEY AUTO_INCREMENT,
  ->     ProductName VARCHAR(255),
  ->     Price DECIMAL(10, 2),
  ->     Description TEXT
  -> );
Query OK, 0 rows affected (0.06 sec)
```

```
mysql> CREATE TABLE Product_Metadata (
  ->     ProductID INT PRIMARY KEY,
  ->     LastModified TIMESTAMP DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP
  -> );
Query OK, 0 rows affected (0.03 sec)
```

```
mysql> DELIMITER //
mysql> CREATE TRIGGER updateProductMetadata
  -> AFTER INSERT ON Products
  -> FOR EACH ROW
  -> BEGIN
  ->     INSERT INTO Product_Metadata (ProductID) VALUES (NEW.ProductID)
  ->     ON DUPLICATE KEY UPDATE LastModified = CURRENT_TIMESTAMP;
  -> END;
  -> //
Query OK, 0 rows affected (0.02 sec)

mysql> DELIMITER ;
```

```
mysql> select * from Products;
Empty set (0.01 sec)
```

```

package com.anudip.saurav;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.PreparedStatement;
import java.sql.SQLException;
public class InsertProduct {
    public static void main(String[] args) {
        String url = "jdbc:mysql://localhost:3306/dbmsdemo";
        String username = "root";
        String password = "Pandey";
        try (Connection connection = DriverManager.getConnection(url,
username, password)) {
            // Insert a new product
            insertProduct(connection, "New Product", 29.99, "Description of
the new product");

            } catch (SQLException e) {
                e.printStackTrace();
            }
        }

        private static void insertProduct(Connection connection, String
productName, double price, String description) throws SQLException {
            String insertQuery = "INSERT INTO Products (ProductName, Price,
Description) VALUES (?, ?, ?)";
            try (PreparedStatement preparedStatement =
connection.prepareStatement(insertQuery)) {
                preparedStatement.setString(1, productName);
                preparedStatement.setDouble(2, price);
                preparedStatement.setString(3, description);

                int rowsAffected = preparedStatement.executeUpdate();
                if (rowsAffected > 0) {
                    System.out.println("Product inserted successfully.");
                } else {
                    System.out.println("Failed to insert product.");
                }
            }
        }
    }
}

```

```
mysql> select * from Products;
```

```

+-----+-----+-----+-----+
| ProductID | ProductName | Price | Description |
+-----+-----+-----+-----+
|          1 | New Product | 29.99 | Description of the new product |
+-----+-----+-----+-----+
1 row in set (0.00 sec)

```

```
mysql> select * from Product_Metadata;
```

```

+-----+-----+
| ProductID | LastModified |
+-----+-----+
|          1 | 2024-02-21 23:50:18 |
+-----+-----+
1 row in set (0.00 sec)

```