***Day5\_JDBC\_CaseStudy***

# Task1:

## Queries:

use coursedb;

create table coursedb.courses (course\_id INT PRIMARY KEY,course\_name VARCHAR(100),faculty VARCHAR(100),credits INT);

select \* from courses;

## JDBC Operations:

### Dbutilization.java:

**package** Coursereg;

**import** java.sql.Connection; **import** java.sql.DriverManager; **import** java.sql.SQLException; **public class** Dbutilization {

**private static final** String ***URL*** = "jdbc:mysql://localhost:3306/coursedb";

**private static final** String ***USER*** = "root";

**private static final** String ***PASSWORD*** = "pass@word";

**public static** Connection getConnection() **throws** SQLException {

Connection conn = DriverManager.*getConnection*(***URL***, ***USER***, ***PASSWORD***); System.***out***.println("Connected to the database");

**return** conn;

}

}

### Output:

Connected to the database

* + **Insertcourse.java: package** Coursereg;

**import** java.sql.Connection; **import** java.sql.PreparedStatement; **import** java.util.Scanner;

**public class** Insertcourse {

**public static void** main(String[] args) {

**try** (Scanner sc = **new** Scanner(System.***in***); Connection conn = Dbutilization.*getConnection*()) { System.***out***.print("Enter Course ID:");

**int** id = sc.nextInt(); sc.nextLine();

System.***out***.print("Enter Course Name:"); String name = sc.nextLine(); System.***out***.print("Enter Faculty:"); String faculty = sc.nextLine(); System.***out***.print("Enter Credits:");

**int** credits = sc.nextInt();

String query = "INSERT INTO courses VALUES (?, ?, ?, ?)"; PreparedStatement ps = conn.prepareStatement(query); ps.setInt(1, id);

ps.setString(2, name); ps.setString(3, faculty); ps.setInt(4, credits);

**int** rows = ps.executeUpdate();

System.***out***.println(rows > 0 ? "Course inserted" : "Insertion failed.");

} **catch** (Exception e) { e.printStackTrace();

}

}

}

* + **Selectcourse.java: package** Coursereg;

**import** java.sql.Connection; **import** java.sql.ResultSet; **import** java.sql.Statement; **public class** Selectcourse {

**public static void** main(String[] args) {

**try** (Connection conn = Dbutilization.*getConnection*(); Statement stmt = conn.createStatement();

ResultSet rs = stmt.executeQuery("SELECT \* FROM courses")) { System.***out***.println("Course List:");

**while** (rs.next()) {

System.***out***.println("ID:" + rs.getInt("course\_id") + ",Name:" + rs.getString("course\_name") + ",Faculty:" + rs.getString("faculty") + ",Credits:" + rs.getInt("credits"));

}

} **catch** (Exception e) { e.printStackTrace();

}

}

}

* + **Updatecourse.java: package** Coursereg;

**import** java.sql.Connection; **import** java.sql.PreparedStatement; **import** java.util.Scanner;

**public class** Updatecourse {

**public static void** main(String[] args) {

**try** (Scanner sc = **new** Scanner(System.***in***); Connection conn = Dbutilization.*getConnection*()) { System.***out***.print("Enter Course ID to update:");

**int** id = sc.nextInt(); sc.nextLine();

System.***out***.print("Enter new Faculty:"); String faculty = sc.nextLine(); System.***out***.print("Enter new Credits:"); **int** credits = sc.nextInt();

String query = "UPDATE courses SET faculty=?,credits=? WHERE course\_id=?"; PreparedStatement ps = conn.prepareStatement(query);

ps.setString(1,faculty); ps.setInt(2,credits);

ps.setInt(3,id);

**int** rows = ps.executeUpdate();

System.***out***.println(rows > 0 ? "Course updated successfully.":"No course found with given ID.");

} **catch** (Exception e) { e.printStackTrace();

}

}

* + }
  + **Deletecourse.java: package** Coursereg;

**import** java.sql.Connection; **import** java.sql.PreparedStatement; **import** java.util.Scanner;

**public class** Deletecourse {

**public static void** main(String[] args) {

**try** (Scanner sc = **new** Scanner(System.***in***); Connection conn = Dbutilization.*getConnection*()) { System.***out***.print("Enter Course ID to delete: ");

**int** id = sc.nextInt();

String query = "DELETE FROM courses WHERE course\_id=?"; PreparedStatement ps = conn.prepareStatement(query); ps.setInt(1, id);

**int** rows = ps.executeUpdate();

System.***out***.println(rows > 0 ? "Course deleted successfully.":"No course found with given ID.");

} **catch** (Exception e) { e.printStackTrace();

}

}

* + }

# Task2:

## Queries:

use inventorydb;

create table inventorydb.products (product\_id INT PRIMARY KEY,product\_name VARCHAR(100),quantity INT,price DECIMAL(10,2));

select \* from products;

## JDBC Operations:

### Dbutilization.java:

**package** Inventorysys;

**import** java.sql.Connection; **import** java.sql.DriverManager; **import** java.sql.SQLException; **public class** Dbutilization {

**private static final** String ***URL*** "jdbc:mysql://localhost:3306/inventorydb";

**private static final** String ***USER*** = "root";

**private static final** String ***PASSWORD*** = "Guru@123";

**public static** Connection getConnection() **throws** SQLException {

Connection conn = DriverManager.*getConnection*(***URL***, ***USER***, ***PASSWORD***); System.***out***.println("Connected to the database");

**return** conn;

}

}

### Output:

Connected to the database

## Insertinventory:

**package** Inventorysys;

**import** java.sql.Connection; **import** java.sql.PreparedStatement; **import** java.util.Scanner;

**public class** Insertinventory {

**public static void** main(String[] args) {

**try** (Scanner sc = **new** Scanner(System.***in***); Connection conn = Dbutilization.*getConnection*()) { System.***out***.print("Enter product ID:");

**int** id = sc.nextInt(); sc.nextLine();

System.***out***.print("Enter product Name:"); String name = sc.nextLine(); System.***out***.print("Enter quantity:");

**int** qty = sc.nextInt(); System.***out***.print("Enter price:"); **double** price = sc.nextDouble();

String query = "INSERT INTO products VALUES (?, ?, ?, ?)"; PreparedStatement ps = conn.prepareStatement(query); ps.setInt(1, id);

ps.setString(2, name); ps.setInt(3, qty); ps.setDouble(4, price);

**int** rows = ps.executeUpdate();

System.***out***.println(rows > 0 ? "Product added":"Insertion failed.");

} **catch** (Exception e) { e.printStackTrace();

}

}

* + }

### Output:

Connected to the database Enter product ID:1

Enter product Name:bag

Enter quantity:100

Enter price:1000 Product added

## SelectInventory:

**package** Inventorysys; **import** java.sql.Connection; **import** java.sql.ResultSet; **import** java.sql.Statement; **public class** Selectinventory {

**public static void** main(String[] args) {

**try** (Connection conn = Dbutilization.*getConnection*();

Statement stmt = conn.createStatement();

ResultSet rs = stmt.executeQuery("SELECT \* FROM products")) { System.***out***.println("---- Product Inventory ");

**while** (rs.next()) {

System.***out***.println("ID: " + rs.getInt("product\_id") + ",Name:" + rs.getString("product\_name") + ",Quantity:" + rs.getInt("quantity") +

",Price:" + rs.getDouble("price"));

}

} **catch** (Exception e) { e.printStackTrace();

}

}

}

## Updateinventory.java:

**package** Inventorysys;

**import** java.sql.Connection; **import** java.sql.PreparedStatement; **import** java.util.Scanner;

**public class** Updateinventory {

**public static void** main(String[] args) {

**try** (Scanner sc = **new** Scanner(System.***in***); Connection conn = Dbutilization.*getConnection*()) {

System.***out***.print("Enter product ID to update quantity: ");

**int** id = sc.nextInt(); System.***out***.print("Enter New Quantity: "); **int** qty = sc.nextInt();

String query = "UPDATE products SET quantity = ? WHERE product\_id = ?"; PreparedStatement ps = conn.prepareStatement(query);

ps.setInt(1, qty); ps.setInt(2, id);

**int** rows = ps.executeUpdate();

System.***out***.println(rows > 0 ? "Quantity updated!":"Product not found.");

} **catch** (Exception e) { e.printStackTrace();

}

}

}

## Deleteinventory.java:

**package** Inventorysys;

**import** java.sql.Connection; **import** java.sql.PreparedStatement; **import** java.util.Scanner;

**public class** Deleteinventory {

**public static void** main(String[] args) {

**try** (Scanner sc = **new** Scanner(System.***in***); Connection conn = Dbutilization.*getConnection*()) { System.***out***.print("Enter Product ID to delete: ");

**int** id = sc.nextInt();

String query = "DELETE FROM products WHERE product\_id = ?"; PreparedStatement ps = conn.prepareStatement(query);

ps.setInt(1, id);

**int** rows = ps.executeUpdate();

System.***out***.println(rows > 0 ? "Product deleted" : "Product not found");

} **catch** (Exception e) { e.printStackTrace();

}

}

* + }