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:

```
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 = "Likhita@2003";

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();
}
}
}
```

Output:

```
Connected to the database
Enter Course ID:1
```

Enter Course Name:jdbc

Enter Faculty:Ram

Enter Credits:5

Course inserted

➢ 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();
}
}
}
```

Output:

Connected to the database

Course List:

ID:1,Name:jdbc,Faculty:Ram,Credits:5

ID:3,Name:ABAp,Faculty:Sanjana,Credits:5

ID:4,Name:SAP,Faculty:Kiran,Credits:5

ID:10,Name:Java,Faculty:Sam,Credits:5

➢ **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();
}
}
```

}

Output:

Connected to the database

Enter Course ID to update:1

Enter new Faculty:Ram

Enter new Credits:5

Course updated successfully.

➢ 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();
}
}
```

➢ }

Output:

Connected to the database

Enter Course ID to delete: 1

Course deleted successfully.

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 = "Likhita@2003";
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:bottle

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();
}
}
```

}

Output:

Connected to the database

---- Product Inventory ----

ID: 1,Name:bottle,Quantity:100,Price:1000.0

ID: 2,Name:Steelbottle,Quantity:100,Price:10000.0

ID: 3,Name:Kidsbottle,Quantity:100,Price:15000.0

ID: 4,Name:Gymbottle,Quantity:100,Price:20000.0

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();
}
```

```
}
}
```

Output:

```
Connected to the database
Enter product ID to update quantity: 1
Enter New Quantity: 200
Quantity updated!
```

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();
}
}
 }
```

Output:

Connected to the database

Enter Product ID to delete: 1

Product deleted