

Day_5_Assignment

Case Study 1: Online Course Registration System

```
CREATE DATABASE courseDataBase;

USE courseDataBase;

CREATE TABLE courses (
    course_id INT PRIMARY KEY,
    course_name VARCHAR(100),
    faculty VARCHAR(100),
    credits INT
);
```

//CourseManager.java

```
public class CourseManager {

    public static void main(String[] args) {

        String url = "jdbc:mysql://localhost:3306/ courseDataBase ";
        String user = "root";
        String password = "Lalithakumar4180";

        try {

            Class.forName("com.mysql.cj.jdbc.Driver");

            Connection conn = DriverManager.getConnection(url, user, password);

            System.out.println("Connected to courseDataBase database!");

            conn.close();

        } catch (Exception e) {

            System.out.println("Connection error: " + e);

        }

    }

}
```

O/P:

Connected to courseDataBase database!

//InsertedCourses.java

```
public class InsertedCourses {  
    public static void main(String[] args) {  
        String url = "jdbc:mysql://localhost:3306/ courseDataBase ";  
        String user = "root";  
        String password = " Lalithakumar4180";  
        try {  
            Class.forName("com.mysql.cj.jdbc.Driver");  
            Connection conn = DriverManager.getConnection(url, user, password);  
            String sql = "INSERT INTO courses (course_id, course_name, faculty, credits) VALUES (?, ?, ?,  
?)" ;  
            PreparedStatement ps = conn.prepareStatement(sql);  
            ps.setInt(1, 101);  
            ps.setString(2, "Java");  
            ps.setString(3, "Pavan Birlangi");  
            ps.setInt(4, 3);  
            int rowsInserted = ps.executeUpdate();  
            if (rowsInserted > 0) {  
                System.out.println("Course inserted successfully.");  
            }  
            conn.close();  
        } catch (Exception e) {  
            System.out.println("Error: " + e);  
        }  
    }  
}
```

O/P:

Course inserted successfully.

//SelectCourses.java

```
public class SelectCourses {

    public static void main(String[] args) {

        String url = "jdbc:mysql://localhost:3306/ courseDataBase ";

        String user = "root";

        String password = " Lalithakumar4180";

        try {

            Class.forName("com.mysql.cj.jdbc.Driver");

            Connection conn = DriverManager.getConnection(url, user, password);

            Statement stmt = conn.createStatement();

            ResultSet rs = stmt.executeQuery("SELECT * FROM courses");

            System.out.println("Course List:");

            System.out.println("-----");

            System.out.printf("%-10s %-20s %-15s %-10s\n", "ID", "Course Name", "Faculty", "Credits");

            System.out.println("-----");

            while (rs.next()) {

                int id = rs.getInt("course_id");

                String name = rs.getString("course_name");

                String faculty = rs.getString("faculty");

                int credits = rs.getInt("credits");

                System.out.printf("%-10d %-20s %-15s %-10d\n", id, name, faculty, credits);

            }

            conn.close();

        } catch (Exception e) {

            System.out.println("Error: " + e);

        }

    }

}
```

O/P:

Course List:

ID	Course Name	Faculty	Credits

101	Java	Lalitha	5
301	Java	Pavan Birlangi	3

//UpdateCourse.java

```
public class UpdateCourse {  
    public static void main(String[] args) {  
        String url = "jdbc:mysql://localhost:3306/ courseDataBase ";  
        String user = "root";  
        String password = " Lalithakumar4180";  
        try {  
            Connection conn = DriverManager.getConnection(url, user, password);  
            Scanner sc = new Scanner(System.in);  
            System.out.print("Enter Course ID to update: ");  
            int courseId = sc.nextInt();  
            sc.nextLine();  
            System.out.print("Enter new Faculty Name: ");  
            String newFaculty = sc.nextLine();  
            System.out.print("Enter new Credits: ");  
            int newCredits = sc.nextInt();  
            String sql = "UPDATE courses SET faculty = ?, credits = ? WHERE course_id = ?";  
            PreparedStatement ps = conn.prepareStatement(sql);  
            ps.setString(1, newFaculty);  
            ps.setInt(2, newCredits);  
            ps.setInt(3, courseId);  
            int rowsUpdated = ps.executeUpdate();  
        }  
    }  
}
```

```

        System.out.println(rowsUpdated > 0 ? "Course updated successfully." : "Course ID not found.");
        conn.close();
        sc.close();
    } catch (Exception e) {
        System.out.println("Error: " + e);
    }
}
}

```

O/P:

Enter Course ID to update: 301

Enter new Faculty Name: Pavan Sir

Enter new Credits: 5

Course updated successfully.

//DeleteCourse.java

```

public class DeleteCourse {
    public static void main(String[] args) {
        String url = "jdbc:mysql://localhost:3306/ courseDataBase ";
        String user = "root";
        String password = " Lalithakumar4180";
        try {
            Connection conn = DriverManager.getConnection(url, user, password);
            Scanner sc = new Scanner(System.in);
            System.out.print("Enter Course ID to delete: ");
            int courseId = sc.nextInt();
            String sql = "DELETE FROM courses WHERE course_id = ?";
            PreparedStatement ps = conn.prepareStatement(sql);
            ps.setInt(1, courseId);
            int rowsDeleted = ps.executeUpdate();
            System.out.println(rowsDeleted > 0 ? "Course deleted successfully." : "Course ID not found.");
        }
    }
}

```

```

        conn.close();

        sc.close();
    } catch (Exception e) {

        System.out.println("Error: " + e);
    }
}
}

```

O/P:

Enter Course ID to delete: 301

Course deleted successfully.

.....

Case Study 2: Product Inventory System

```

CREATE DATABASE inventory;

USE inventory;

CREATE TABLE products (
    product_id INT PRIMARY KEY,
    product_name VARCHAR(100),
    quantity INT,
    price DECIMAL(10,2)
);

```

//InventoryConnection.java

```

public class InventoryConnection {
    public static void main(String[] args) {
        String url = "jdbc:mysql://localhost:3306/inventory";
        String user = "root";
        String password = "Lalithakumar4180";
        try {
            Connection conn = DriverManager.getConnection(url, user, password);
            System.out.println("Connected to inventory");
        }
    }
}

```

```

        conn.close();
    } catch (Exception e) {
        System.out.println("Error: " + e);
    }
}
}
}

```

O/P:

Connected to inventory

//InsertProduct.java

```

public class InsertProduct {
    public static void main(String[] args) {
        String url = "jdbc:mysql://localhost:3306/inventory";
        String user = "root";
        String password = "Lalithakumar4180";
        try {
            Connection conn = DriverManager.getConnection(url, user, password);
            String sql = "INSERT INTO products (product_id, product_name, quantity, price) VALUES (?, ?, ?, ?)";
            PreparedStatement ps = conn.prepareStatement(sql);
            ps.setInt(1, 101);
            ps.setString(2, "Hello");
            ps.setInt(3, 100);
            ps.setDouble(4, 88.98);
            int rowsInserted = ps.executeUpdate();
            System.out.println(rowsInserted > 0 ? "Product inserted successfully." : "Insertion failed.");
            conn.close();
        } catch (Exception e) {
            System.out.println("Error: " + e);
        }
    }
}

```

```
}
```

O/P:

Connected to inventory

Product inserted successfully.

//SelectProducts.java

```
public class SelectProducts {  
    public static void main(String[] args) {  
        String url = "jdbc:mysql://localhost:3306/inventory";  
        String user = "root";  
        String password = "Lalithakumar4180";  
        try {  
            Connection conn = DriverManager.getConnection(url, user, password);  
            Statement stmt = conn.createStatement();  
            ResultSet rs = stmt.executeQuery("SELECT * FROM products");  
            System.out.println("Product List:");  
            System.out.println("-----");  
            System.out.printf("%-10s %-20s %-10s %-10s%n", "ID", "Product Name", "Quantity", "Price");  
            System.out.println("-----");  
            while (rs.next()) {  
                int id = rs.getInt("product_id");  
                String name = rs.getString("product_name");  
                int qty = rs.getInt("quantity");  
                double price = rs.getDouble("price");  
                System.out.printf("%-10d %-20s %-10d %-10.2f%n", id, name, qty, price);  
            }  
            conn.close();  
        } catch (Exception e) {  
            System.out.println("Error: " + e);  
        }  
    }  
}
```



```
}
```

O/P:

Connected to inventory

Product List:

```
-----  
ID      Product Name    Quantity  Price  
-----  
101     Hell0             100       88.98
```

//UpdateProductQuantity.java

```
public class UpdateProductQuantity {  
    public static void main(String[] args) {  
        String url = "jdbc:mysql://localhost:3306/inventory";  
        String user = "root";  
        String password = "Lalithakumar4180";  
        try {  
            Connection conn = DriverManager.getConnection(url, user, password);  
            Scanner sc = new Scanner(System.in);  
            System.out.print("Enter Product ID to update quantity: ");  
            int productId = sc.nextInt();  
            System.out.print("Enter new quantity: ");  
            int newQuantity = sc.nextInt();  
            String sql = "UPDATE products SET quantity = ? WHERE product_id = ?";  
            PreparedStatement ps = conn.prepareStatement(sql);  
            ps.setInt(1, newQuantity);  
            ps.setInt(2, productId);  
            int rowsUpdated = ps.executeUpdate();  
            System.out.println(rowsUpdated > 0 ? "Product quantity updated successfully." : "Product ID  
not found.");  
            conn.close();  
            sc.close();  
        }  
    }  
}
```

```

    } catch (Exception e) {
        System.out.println("Error: " + e);
    }
}
}

```

O/P:

Enter Product ID to update quantity: 101

Enter new quantity: 4

Product quantity updated successfully.

//DeleteProduct.java

```

public class DeleteProduct {
    public static void main(String[] args) {
        String url = "jdbc:mysql://localhost:3306/inventory";
        String user = "root";
        String password = "Lalithakumar4180";
        try {
            Connection conn = DriverManager.getConnection(url, user, password);
            Scanner sc = new Scanner(System.in);
            System.out.print("Enter Product ID to delete: ");
            int productId = sc.nextInt();
            String sql = "DELETE FROM products WHERE product_id = ?";
            PreparedStatement ps = conn.prepareStatement(sql);
            ps.setInt(1, productId);
            int rowsDeleted = ps.executeUpdate();
            System.out.println(rowsDeleted > 0 ? "Product deleted successfully." : "Product ID not found.");
            conn.close();
            sc.close();
        } catch (Exception e) {
            System.out.println("Error: " + e);
        }
    }
}

```

```
}  
}  
}
```

O/P:

Enter Product ID to delete: 101

Product deleted successfully.