Contents

ONLINE FOOD ORDERING SYSTEM

PROJECT SCOPE

The convenience of ordering food from anywhere and having it delivered to your doorstep has made online food ordering systems highly desirable for modern consumers. These systems streamline the food ordering process, offering a vast range of restaurants and cuisines at users' fingertips. By lowering operational costs and leveraging technology, online food ordering platforms can provide more choices and competitive prices compared to traditional dining options.

Online food ordering data encompasses various information related to restaurant operations, customer preferences, sales performance, and delivery logistics. Companies with an online presence can use this data to gain insights into customer behavior and enhance their service offerings. This dataset, focusing on Pakistan's largest online food ordering platform, covers around six months of transactions and can be utilized to address multiple business and operational challenges:

- **Business performance:**
  Evaluate the performance of Pakistan's online food ordering sector.
- **Consumer behavior:**
  Understand customer preferences and purchasing patterns to optimize offerings.
- **Delivery and logistics:**
  Improve delivery efficiency and reduce operational costs.
- **Fraud and payments:**
  Monitor and prevent fraudulent activities.
- **Marketing campaign effectiveness:**
  Assess and enhance the success of marketing strategies.
- **Industry regulation compliance:**
  Ensure adherence to industry standards and consumer protection.
- **Product pricing:**
  Optimize pricing strategies to stay competitive.
- **Sales trend forecasting:**
  Identify and predict demand trends for better inventory management.
- **Inventory management:**
  Ensure adequate stock levels to meet customer demand.

GOALS AND OBJECTIVES

These goals and objectives provide a comprehensive framework for analyzing Pakistan's Largest Online Food Ordering Dataset and addressing various aspects of the industry. By achieving these objectives, stakeholders can make informed decisions, enhance customer experiences, and contribute to the growth and efficiency of the sector.

• Business Performance:

Goal: Evaluate the performance of Pakistan's online food ordering industry.
Objectives: Analyze sales and revenue data to identify operational strengths and weaknesses and improve profitability.

• Consumer Behavior:

Goal: Understand customer behavior in Pakistan's online food ordering sector.
Objectives: Study customer preferences, purchasing habits, and histories to optimize inventory management, marketing strategies, and product development.

- **Delivery and Logistics:**

Goal: Enhance delivery and logistics services.

Objectives: Identify inefficiencies in shipping and delivery processes to reduce costs and improve delivery times.

- **Fraud and Payments:**

Goal: Monitor and prevent fraud.

Objectives: Analyze transaction data to identify potential fraud and take preventive actions.

- **Effectiveness of Marketing Campaigns:**

Goal: Assess the success of marketing initiatives.

Objectives: Evaluate marketing data to identify successful campaigns and improve ROI on future efforts.

- **Industry Regulation:**

Goal: Ensure compliance with industry regulations.

Objectives: Review transaction data and corporate practices to promote consumer protection and fair competition.

- **Product Pricing:**

Goal: Optimize product pricing strategies.

Objectives: Analyze price information and competition pricing methods to stay competitive and boost sales.

- **Forecasting Sales Trends:**

Goal: Predict future demand trends.

Objectives: Study sales data over time to identify patterns and make informed predictions.

- **Inventory Management:**

Goal: Improve inventory management practices.

Objectives: Anticipate product demand and ensure sufficient stock levels to fulfill customer orders efficiently.

BASIC FEATURES

The basic features of an online food ordering system typically include:

- **Restaurant Management:**
  Store and manage restaurant information, including name, location, menu, prices, availability, and ratings.
- **Order Management:**
  Handle order details, including order ID, customer details, restaurant details, items ordered, quantity, total cost, delivery information, and order status.
- **Customer Management:**
  Store and manage customer information, including customer ID, name, contact details, addresses, payment information, and order history.
- **Inventory Management:**
  Track inventory levels, product stock, and availability, updating inventory based on orders and providing alerts for low stock items.
- **Shopping Cart:**
  Allow users to add menu items to a virtual cart, review selections, and proceed to checkout.
- **Checkout and Payment Processing:**
  Provide a secure checkout process with multiple payment options, ensuring secure payment validation and processing.
- **Search and Filtering:**
  Enable users to search for restaurants or menu items based on keywords, categories, cuisine types, and other criteria, with filtering options for refined results.
- **Order History and Account Management:**
  Allow users to view order history, track shipments, and manage account information
- **Analytics and Reporting:**

Collect and analyze data on customer behavior, sales performance, popular restaurants, and other metrics to generate reports for data-driven decisions.

GUI FEATURES

The graphical user interface (GUI) of the Online Food Ordering System is designed to be intuitive and user-friendly.

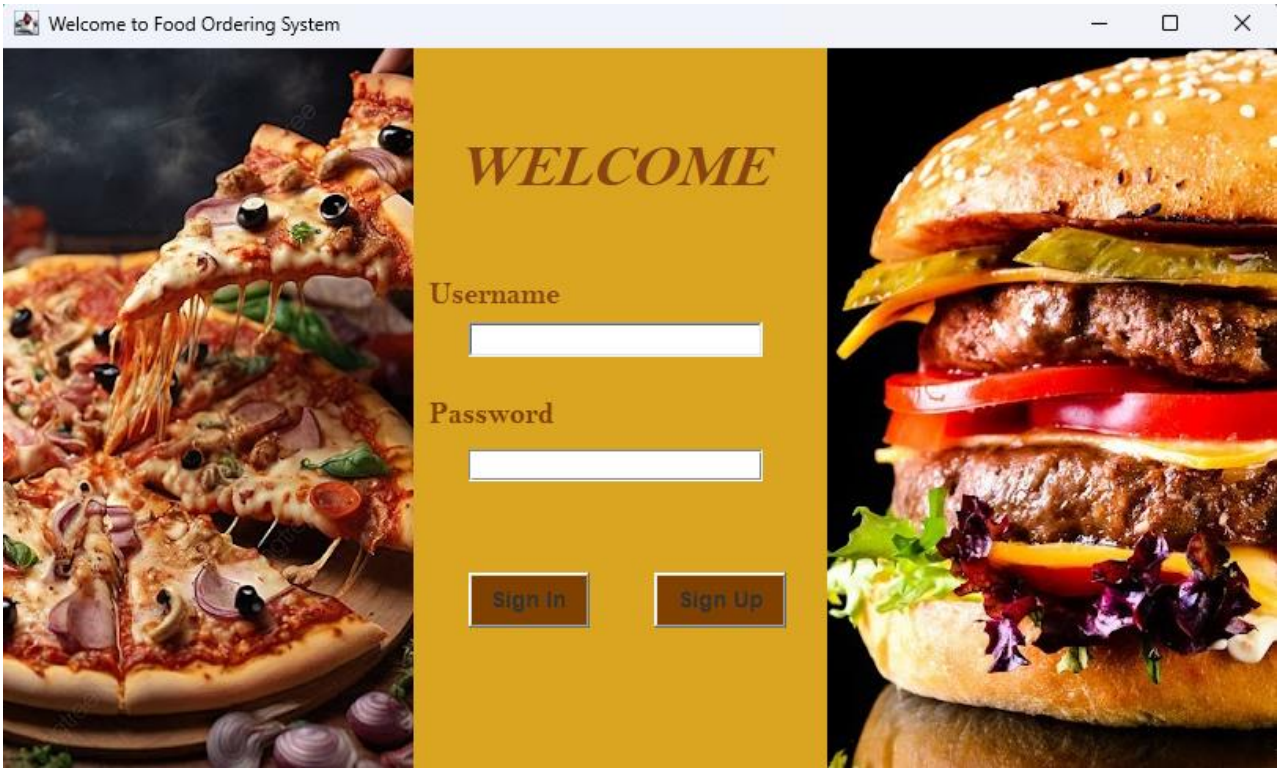
Sign In Form:

Fields:

Username: Text field for entering the username.
Password: Password field for entering the password.

Buttons:

Sign In: Validates the credentials and grants access to the system.
Sign Up: Redirects to the Sign-Up form for new users.



Sign Up Form:

Fields:

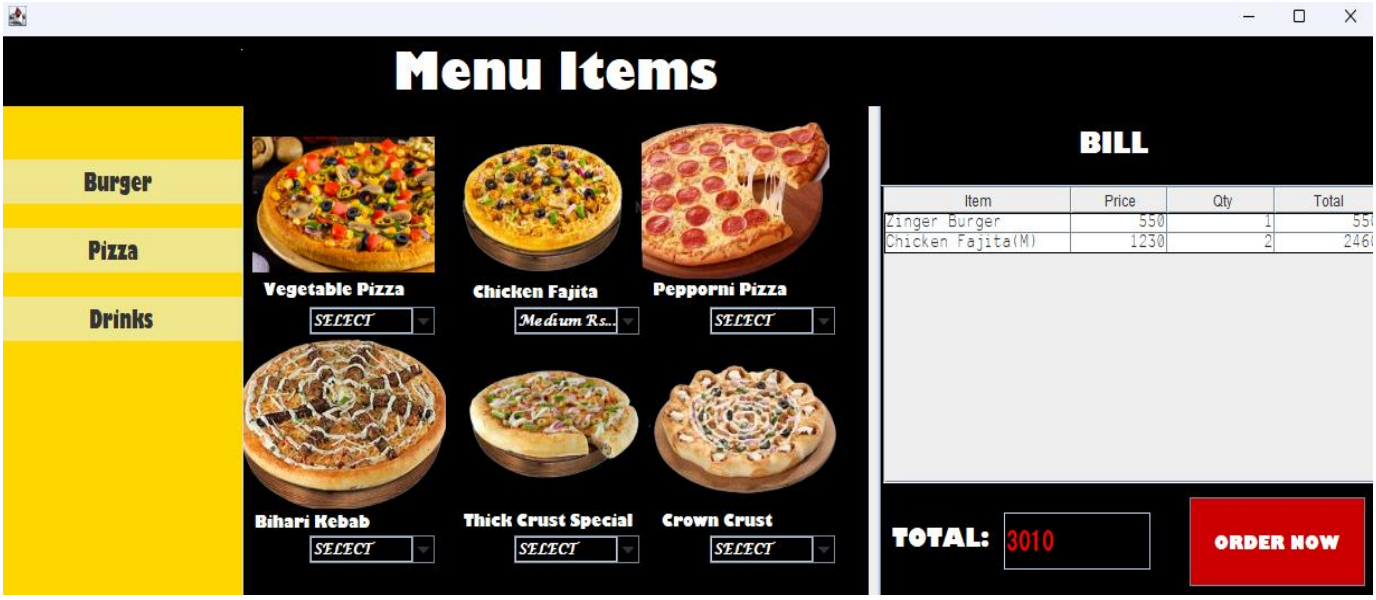
First Name: Text field for entering the first name.
Last Name: Text field for entering the last name.
Username: Text field for entering the desired username.
Password: Password field for entering the desired password.
Email: Text field for entering the email address.
Contact: Text field for entering the phone number.

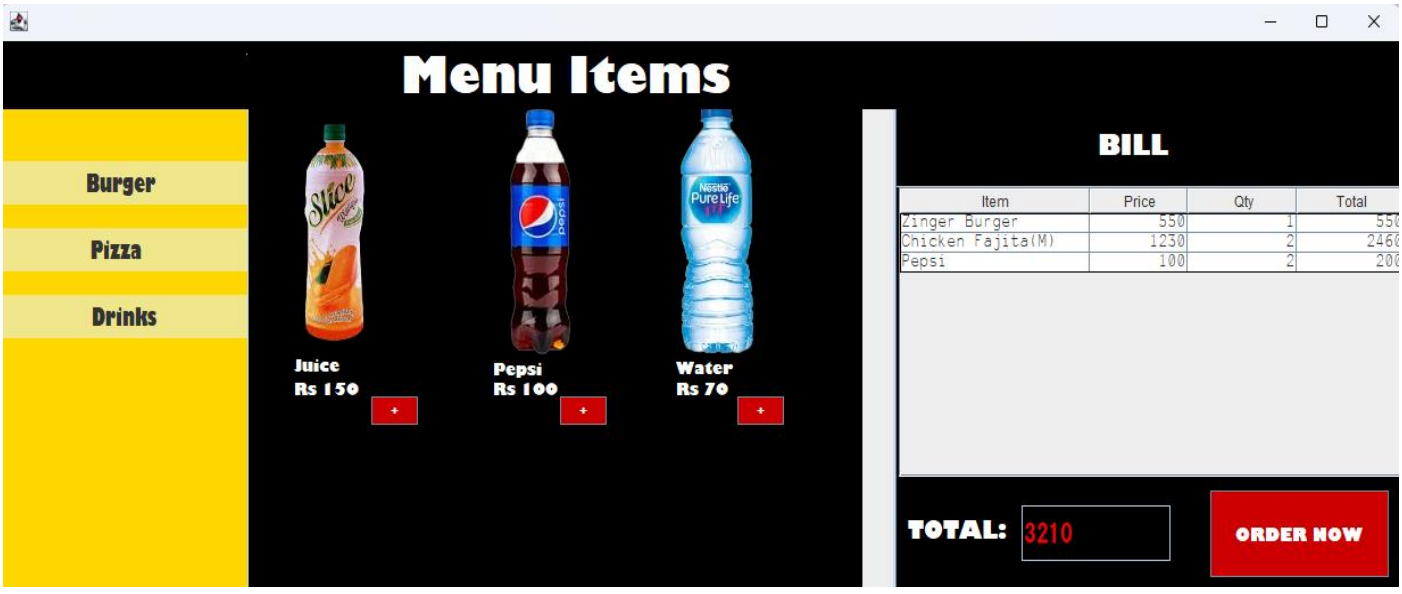
Buttons:

OK: Validates and submits the registration details.

MENU ITEMS

- **Menu Categories (Left Sidebar):**
  - **Categories:**
    - **Burger:** Button to display burger items.
    - **Pizza:** Button to display pizza items.
    - **Drinks:** Button to display drink items.
- **Menu Items Display (Center):**
  - Each menu item is displayed with:
    - **Image:** Visual representation of the item.
    - **Name:** Text label displaying the name of the item.
    - **Price:** Text label displaying the price of the item.
    - **Add Button (+):** Button to add the item to the bill.
- **Bill Summary (Right Sidebar):**
  - **Table:**
    - **Columns:**
      - **Item:** Name of the ordered item.
      - **Price:** Price of the ordered item.
      - **Qty:** Quantity of the ordered item.
      - **Total:** Total price for each ordered item (Price x Quantity).
  - **Total Amount:**
    - **Label (TOTAL):** Text label indicating the total amount.
    - **Value Field:** Field displaying the total calculated amount for the order.
  - **Order Now Button:**
    - **Order Now:** Button to finalize the order and proceed with the payment.





DELIVERY

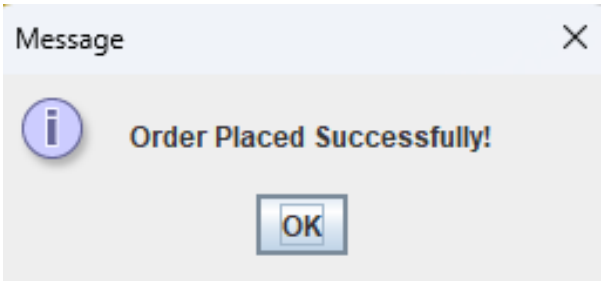
1. **Form Fields:**

- **Name:**
  - Label: "Name"
  - Input: Text field for entering the customer's name.
- **Phone No:**
  - Label: "Phone No"
  - Input: Text field for entering the customer's phone number.
- **Address:**
  - Label: "Address"
  - Input: Multiline text field for entering the delivery address.

2. **Action Button:**
   - **Confirm:**
     - Button labeled "Confirm" for submitting the delivery information.
3. **Visual Design:**
   - **Background Color:**
     - Yellow background for a bright and inviting look.
   - **Text:**
     - Black bold text for labels to ensure readability.
   - **Image:**
     - Illustration of a delivery person on a scooter, enhancing the visual appeal and context of the form.

Functional Features

1. **Input Fields:**
   - **Name:**
     - User enters their name in this field.
   - **Phone No:**
     - User enters their phone number in this field.
   - **Address:**
     - User enters their delivery address in this field, with ample space for detailed information.
2. **Form Submission:**
   - **Confirm Button:**
     - On clicking the "Confirm" button, the system will validate the input fields to ensure all necessary information is provided and correctly formatted.
     - Once validated, the information will be processed, and the order will be confirmed for delivery.



DATABASE CONNECTIVITY

CUSTOMER INFO

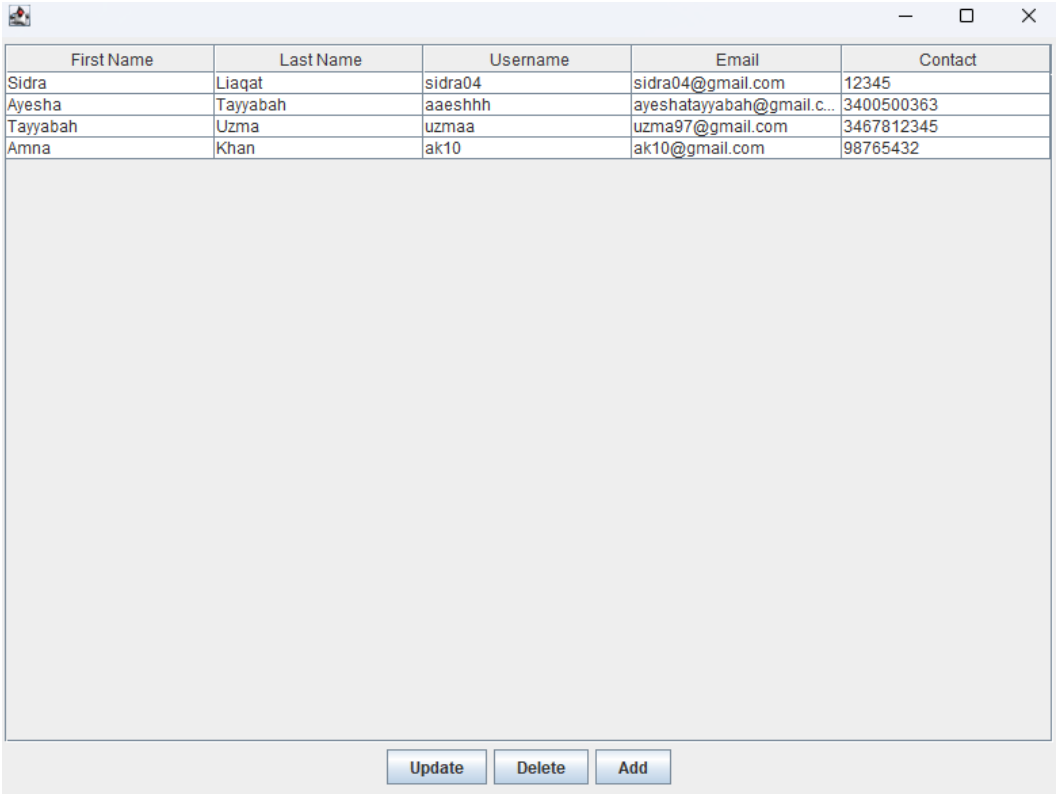
```
private boolean authenticate(String username, String password) {
        boolean isAuthenticated = false;
        Connection conn = null;
        PreparedStatement ps = null;
        ResultSet rs = null;
        try {
            Class.forName("oracle.jdbc.driver.OracleDriver");
            conn = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "sidra", "oracle");
            String query = "SELECT * FROM Customer_info WHERE username = ? AND password = ?";
            ps = conn.prepareStatement(query);
            ps.setString(1, username);
            ps.setString(2, password);
            System.out.println("Executing query: " + ps);
            rs = ps.executeQuery();
            if (rs.next()) {
                isAuthenticated = true;
                System.out.println("User found in the database.");
            } else {
                System.out.println("User not found in the database.");
            }
        } catch (Exception e) {
            e.printStackTrace();
        } finally {
            try {
                if (rs != null) rs.close();
                if (ps != null) ps.close();
                if (conn != null) conn.close();
            } catch (Exception e) {
                e.printStackTrace();
            }
        }
        return isAuthenticated;
    }
}
```

Sidra.sql | Welcome Page | Sidra | CUSTOMER_INFO

Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Partitions | Indexes | SQL

Actions...

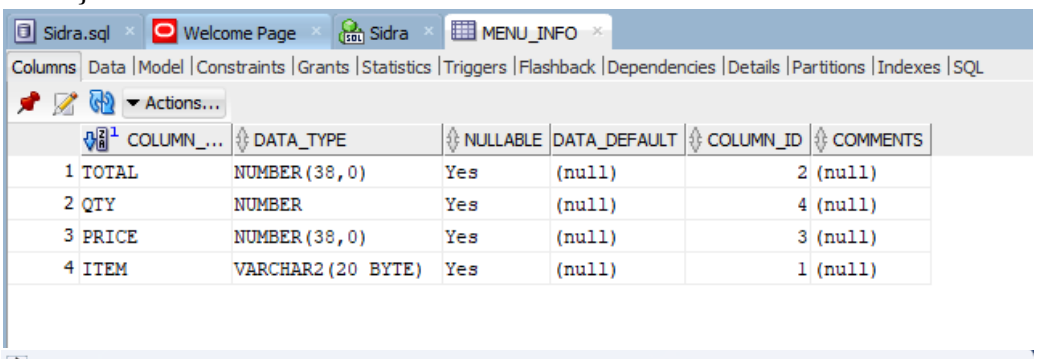
	COLUMN_...	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1	USERNAME	VARCHAR2(20 BYTE)	No	(null)	1	(null)
2	PASSWORD	VARCHAR2(20 BYTE)	No	(null)	2	(null)
3	LAST_NAME	VARCHAR2(20 BYTE)	No	(null)	6	(null)
4	FIRST_NAME	VARCHAR2(20 BYTE)	No	(null)	3	(null)
5	EMAIL	VARCHAR2(50 BYTE)	No	(null)	4	(null)
6	CONTACT	NUMBER(38,0)	No	(null)	5	(null)

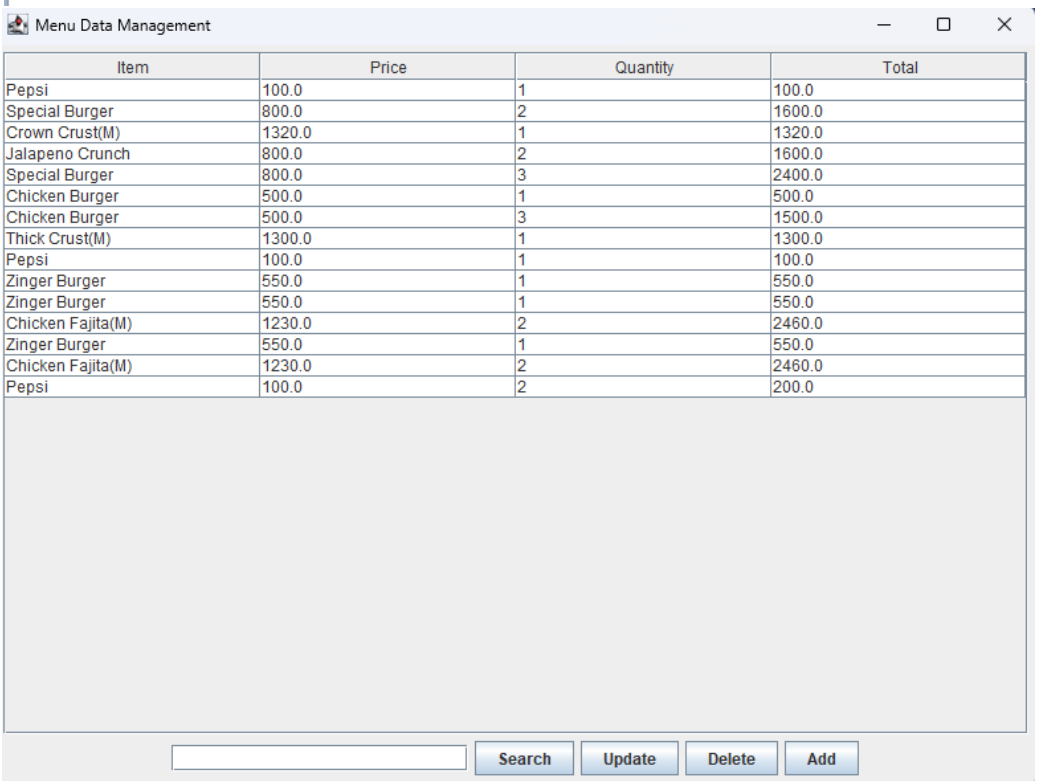


MENU_INFO

```
Connection conn = null;
        PreparedStatement ps = null;
                try {
                    Class.forName("oracle.jdbc.driver.OracleDriver");
conn = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "sidra", "oracle");
                String query = "INSERT INTO Menu_INFO (item, price, qty, total) VALUES (?, ?, ?, ?)";
                    ps = conn.prepareStatement(query);
DefaultTableModel model = (DefaultTableModel) Billl.getModel(); // Corrected variable name
                    for (int i = 0; i < model.getRowCount(); i++) {
                       String item = model.getValueAt(i, 0).toString();
                       int price = Integer.parseInt(model.getValueAt(i, 1).toString());
                       double qty = Double.parseDouble(model.getValueAt(i, 2).toString());
                       double total = Double.parseDouble(model.getValueAt(i, 3).toString());
                       ps.setString(1, item);
                       ps.setInt(2, price);
                       ps.setDouble(3, qty);
                       ps.setDouble(4, total);
```

```
                int rowsInserted = ps.executeUpdate();
                if (rowsInserted > 0) {
                    System.out.println("Row " + (i+1) + " inserted successfully.");
                } else {
                    System.out.println("Failed to insert row " + (i+1) + ".");
                }
            }
        } catch (Exception e1) {
            e1.printStackTrace();
        } finally {
            try {
                if (ps != null) ps.close();
                if (conn != null) conn.close();
            } catch (SQLException ex) {
                ex.printStackTrace();
            }
        }
```

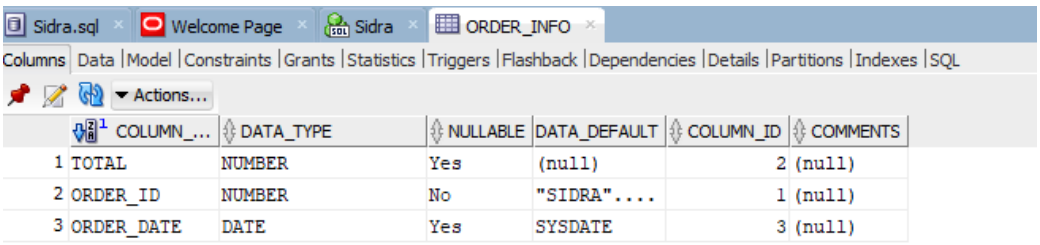


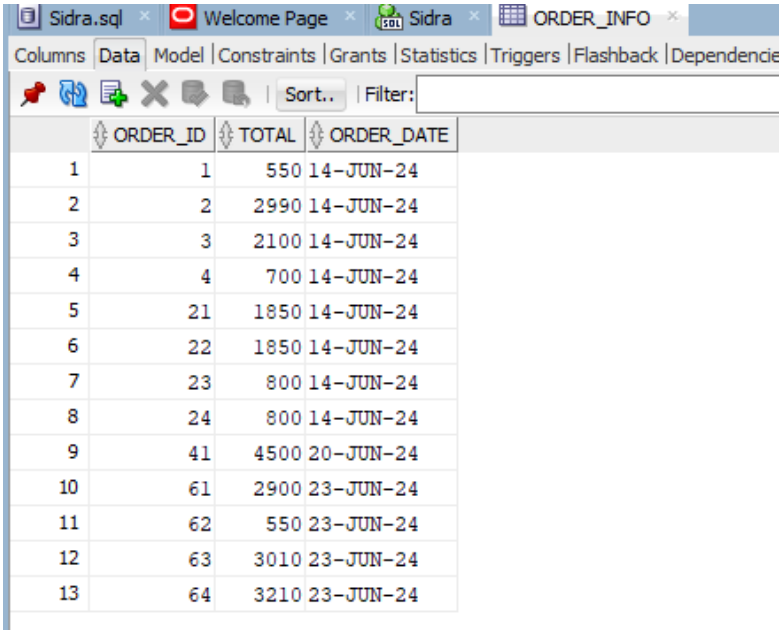


ORDER_INFO

```
        try {
            Class.forName("oracle.jdbc.driver.OracleDriver");
```

```
            conn = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "sidra",
"oracle");
            conn.setAutoCommit(false);
            String query = "INSERT INTO ORDER_info (TOTAL) VALUES (?)";
            ps = conn.prepareStatement(query);
            ps.setString(1, gtotal.getText());
            int rowsInserted = ps.executeUpdate();
            if (rowsInserted > 0) {
                System.out.println("Order detail inserted successfully!");
                 dispose();
            }
            conn.commit();
        } catch (ClassNotFoundException ex) {
            ex.printStackTrace();
        } catch (SQLException ex) {
            ex.printStackTrace();
            if (conn != null) {
                try {
                    conn.rollback();
                } catch (SQLException se) {
                    se.printStackTrace();
                }
            }
        } finally {
            if (ps != null) {
                try {
                    ps.close();
                } catch (SQLException se) {
                    se.printStackTrace();
                }
            }
            if (conn != null) {
                try {
                    conn.close();
                } catch (SQLException se) {
                    se.printStackTrace();
                }
            }
        }
    }
});
```




Sidra.sql | Welcome Page | Sidra | ORDER_INFO

Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependencie

Sort.. | Filter:

	ORDER_ID	TOTAL	ORDER_DATE
1	1	550	14-JUN-24
2	2	2990	14-JUN-24
3	3	2100	14-JUN-24
4	4	700	14-JUN-24
5	21	1850	14-JUN-24
6	22	1850	14-JUN-24
7	23	800	14-JUN-24
8	24	800	14-JUN-24
9	41	4500	20-JUN-24
10	61	2900	23-JUN-24
11	62	550	23-JUN-24
12	63	3010	23-JUN-24
13	64	3210	23-JUN-24

DELIVERY_INFO

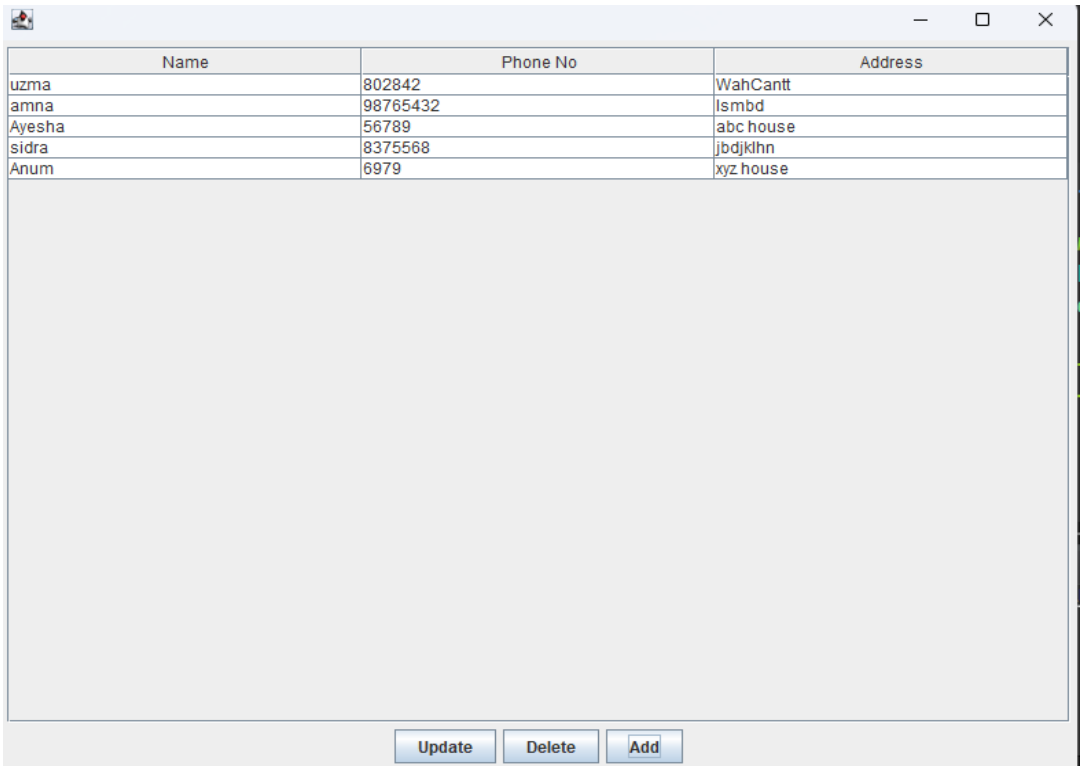
```
Connection conn = null;
        PreparedStatement ps = null;
        try {
           Class.forName("oracle.jdbc.driver.OracleDriver");
         conn = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "sidra", "oracle");
           String query = "INSERT INTO Delivery_INFO (name, Phoneno, Address) VALUES (?, ?, ?)";
           ps = conn.prepareStatement(query);
           ps.setString(1, name.getText());
           ps.setString(2, Phoneno.getText());
           ps.setString(3, Address.getText());
           int rowsInserted = ps.executeUpdate();
           if (rowsInserted > 0) {
              JOptionPane.showMessageDialog(OrderForm.this, "Order Placed Successfully!");
              System.out.println("Info added successfully.");
           } else {
              JOptionPane.showMessageDialog(OrderForm.this, "Order Placement Failed.");
           }
        } catch (Exception e1) {
           e1.printStackTrace();
           JOptionPane.showMessageDialog(OrderForm.this, "Error: " + e1.getMessage());
        } finally{
           try {
              if (ps != null) ps.close();
              if (conn != null) conn.close();
           } catch (SQLException ex) {
              ex.printStackTrace();
           }
        }
        dispose();
        System.exit(0);
}
```

Sidra.sql | Welcome Page | Sidra | DELIVERY_INFO

Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Partitions | Indexe

Actions...

	COLUMN_...	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1	PHONENO	NUMBER	Yes	(null)	2	(null)
2	NAME	VARCHAR2(20 BYTE)	Yes	(null)	1	(null)
3	ADDRESS	VARCHAR2(20 BYTE)	Yes	(null)	3	(null)



CONCLUSION

The food ordering system has significantly improved efficiency, customer satisfaction, and operational insights. It enhances user experience, reduces errors, and supports business growth through scalable and data-driven solutions. Adopting such technology is pivotal for staying competitive in the evolving food service industry.