Title: Food Ordering And Delivery Management System

Course: DATABASE MANAGEMENT SYSTEM (UE23CS351A)
Project Level: Experiential Learning: Level 2 (Mini Project)
Team Members:

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1. DESCRIPTION

Abstract: This project implements a Food Ordering System using MySQL as backend and Streamlit as the frontend. The system supports user registration/login (hashed passwords), restaurant browsing, menu management, cart functionality, order placement (stored procedure), automatic inventory updates (triggers), payment tracking, and user reviews. The application demonstrates normalized relational design, stored procedures, triggers, functions, and analytical queries—meeting the DBMS mini-project requirements.

2. User Requirement Specification

2.1 Purpose of the Project

The purpose of this project is to design and develop a Food Ordering System that enables users to browse restaurants, view menus, place orders, and provide feedback, while allowing administrators to manage restaurants, menu items, and customer orders efficiently.

This project aims to simulate the functionality of popular food delivery platforms like Swiggy or Zomato, providing an interactive web-based platform integrated with a relational database. It demonstrates how database concepts such as normalization, referential integrity, stored procedures, and triggers can be implemented effectively in a real-world business scenario.

The system provides an end-to-end food ordering experience — from restaurant browsing and cart management to order placement and payment tracking — all supported by robust backend database operations.

2.2 Scope of the Project

The scope of this project covers both user-facing and administrator-facing functionalities.

- **For Users:**
  The system allows registration and secure login using password hashing, browsing multiple restaurants and their menus, adding desired food items to a cart, placing orders, selecting payment methods, and submitting reviews with ratings.
- **For Administrators:**
  The system provides a dashboard to manage restaurants, update or delete menu items, track order progress, and update order statuses.

The project ensures data consistency and automation using triggers, procedures, and functions. It demonstrates complete CRUD (Create, Read, Update, Delete) operations across all entities and enforces business rules such as inventory control and order status history.

This application is scalable and can be extended further with delivery tracking, user analytics, and coupon-based discount systems, making it a comprehensive database-driven business solution.

2.3 Detailed Description of the Project

The Food Ordering System is implemented using MySQL as the backend database and Streamlit (Python) as the frontend interface.
It integrates multiple interrelated tables that represent real-world entities such as users, restaurants, menu items, orders, payments, and reviews.

- The database schema includes tables: Users, Restaurants, Menu, Orders, Order_Items, Cart, Payments, Coupons, Delivery_Partners, Reviews, and Order_Status_History.
- The database is normalized and uses foreign key constraints to maintain referential integrity among entities.
- Stored Procedures automate key operations such as order placement and review submission (PlaceOrderFromCart, AddReview).
- Functions such as GetOrderTotal and GetRestaurantAvgRating help compute derived data for business insights.
- Triggers handle automatic updates — adjusting stock levels after each order, recalculating totals, and maintaining a detailed log of order status changes.
- The Streamlit frontend provides a graphical user interface with interactive features for both customers and administrators. Users can browse restaurants with images, view menu categories, and interactively manage their cart, while admins can view and update data seamlessly.

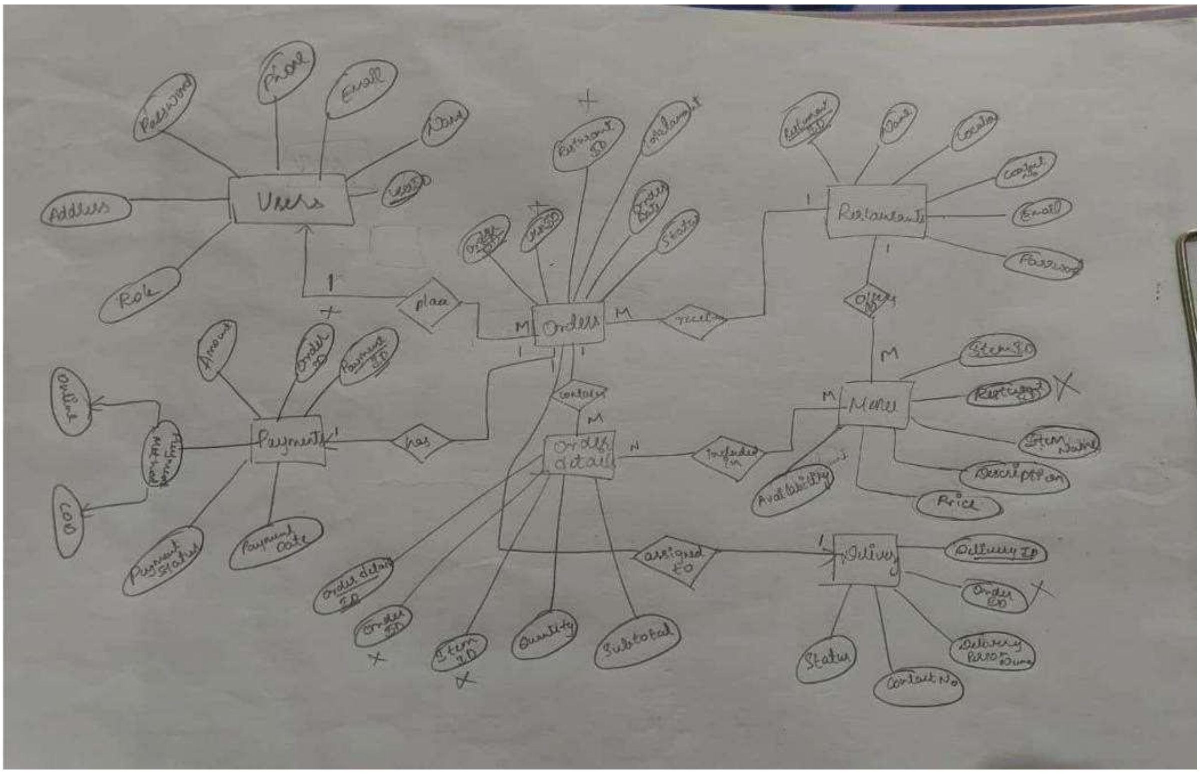
The system thus demonstrates a complete data flow from front-end operations to backend database transactions, ensuring accuracy, security, and ease of management.

2.4 Functional Requirements

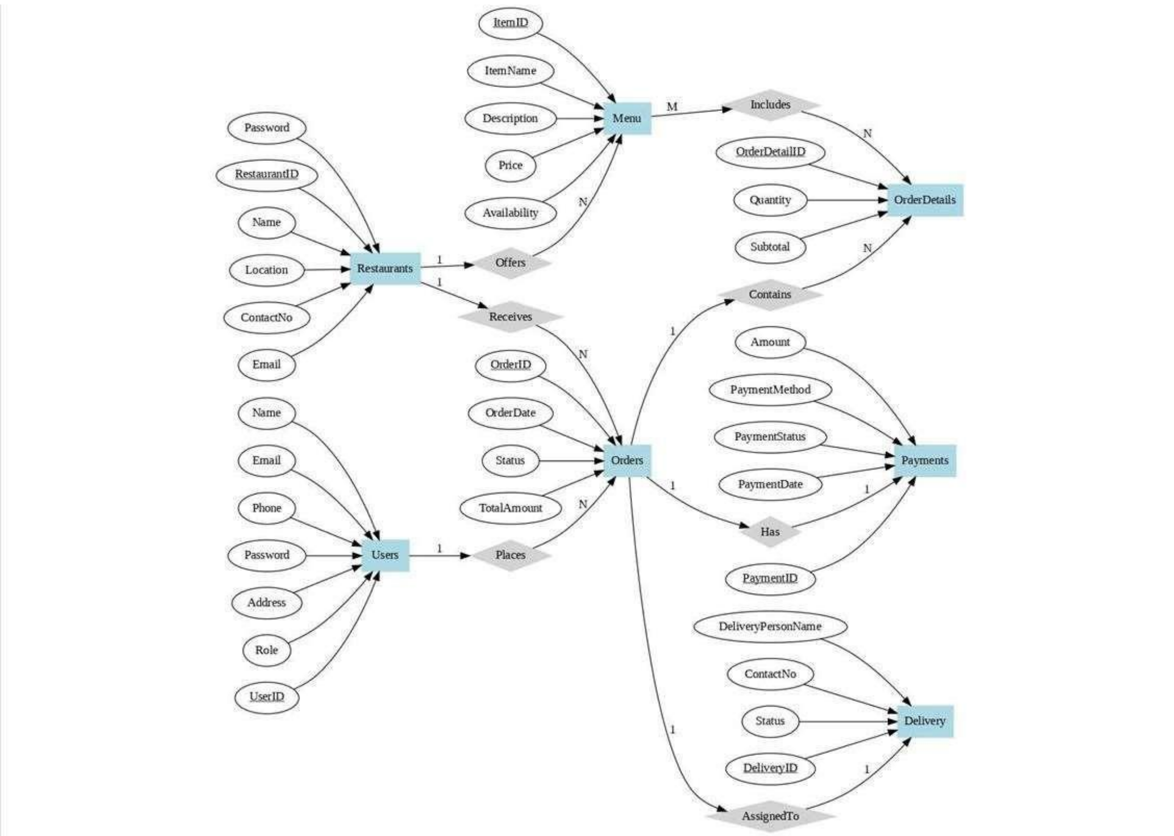
Sl. No.	System Functionality	Description
1	**User Registration & Login**	Allows users to sign up with name, email, and password. Passwords are hashed using SHA-256 for secure authentication.
2	**Restaurant Browsing**	Displays a list of restaurants with details and images. Users can select a restaurant to view its menu.
3	**Menu Display & Filtering**	Fetches menu items dynamically from the database and categorizes them (e.g., Pizza, Drinks, Desserts).
4	**Add to Cart**	Enables users to add menu items to their cart with a specified quantity. Duplicate entries are restricted by unique constraints.

5	**View / Modify Cart**	Displays all items in the user's cart with quantities, prices, and totals. Allows removal of items.
6	**Place Order**	Executes stored procedure PlaceOrderFromCart to create an order, move items from the cart, and compute total amount.
7	**Payment Processing**	Updates payment details (method and amount) for each order. Supports Credit Card, Debit Card, UPI, Wallet, and Cash.
8	**Automatic Stock Update (Trigger)**	Triggers automatically adjust Menu.stock when items are ordered or deleted. Prevents negative stock levels.
9	**Order Status Tracking**	Order statuses are updated by users/admins. A trigger logs every change in Order_Status_History.
10	**Review Submission**	Users can submit ratings and comments through the AddReview procedure. Validation ensures ratings between 1 and 5.
11	**Admin Dashboard**	Admins can add/delete restaurants, manage menu items, and update order statuses from a single interface.
12	**Coupon Management**	Coupon codes provide percentage-based discounts with validation of expiry date and max discount amount.
13	**Data Analytics & Insights**	Functions and queries provide insights such as average restaurant ratings.
14	**Security & Integrity**	The system ensures data consistency through foreign keys, constraints, and controlled SQL operations in the application layer.

2.5 ER Diagram and Representation Schema



Password
Phone
Email
Name
Users
Address
Role
Orders
M
1
has
Payments
COD
Menu
M
N
Price
Quantity
Subtotal
Status
Contact No



ItemID
ItemName
Description
Price
Availability
Menu
M
Includes
N
N
Password
RestaurantID
Name
Location
ContactNo
Email
Restaurants
1
Offers
1
Receives
N
OrderDetailID
Quantity
Subtotal
OrderDetails
N
Contains
1
OrderID
OrderDate
Status
TotalAmount
Orders
N
Amount
PaymentMethod
PaymentStatus
PaymentDate
Payments
1
Has
1
PaymentID
Name
Email
Phone
Password
Address
Role
UserID
Users
1
Places
DeliveryPersonName
ContactNo
Status
DeliveryID
Delivery
1
AssignedTo
1

Representation Schema For Web based Food Delivery :-

Users :

User ID	Name	Email	Phone	Password	Address	Role

Restaurants :

Restaurant ID	Name	Location	Contact info	Email	Password

Menu :

Item ID	Item Name	Description	Price	Availability	Restaurant ID

Order :

Order ID	User ID	Restaurant ID	Order Date	Status	Total Amt

Order Details :

OrderDetail ID	Order ID	Item ID	Quantity	Sub total

Payments :

Payment ID	Order ID	Amount	Payment Method	Payment Status	Payment Date

Delivery :

Delivery ID	Order ID	Delivery Person Name	Contact No	Status

3. List of Softwares/Tools/Programming languages used

Sl. No.	Software / Tool / Language	Purpose / Description
1	**MySQL 8.0**	Backend relational database used to create tables, relationships, triggers, procedures, and functions.
2	**MySQL Workbench**	Tool for database design, ER diagram creation, query execution, and schema visualization.
3	**Python 3.x**	Primary programming language used for backend logic and database integration.
4	**Streamlit**	Web-based frontend framework used to develop the user interface for both users and admins.
5	**mysql-connector-python**	Python library used to connect the Streamlit application with the MySQL database.
6	**pandas**	Python library used for handling and displaying database query results in tabular form.
7	**Pillow (PIL)**	Library used for image handling and display in the Streamlit UI.
8	**Git & GitHub**	Version control and repository hosting platform for maintaining project code and documentation.
9	**VS Code**	Integrated development environments (IDEs) used for writing and debugging Python and SQL code.
10	**Windows 10**	Operating system used for project development and testing environment.

4. DDL Commands

```
DROP DATABASE IF EXISTS FoodOrdering;
CREATE DATABASE FoodOrdering;
USE FoodOrdering;

-- TABLES
-- Users
CREATE TABLE Users (
   user_id INT AUTO_INCREMENT PRIMARY KEY,
   name VARCHAR(100) NOT NULL,
   email VARCHAR(100) UNIQUE NOT NULL,
   phone VARCHAR(20),
   address VARCHAR(255),
   created_at DATETIME DEFAULT CURRENT_TIMESTAMP,
   updated_at DATETIME DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP
);

-- Restaurants
CREATE TABLE Restaurants (
   restaurant_id INT AUTO_INCREMENT PRIMARY KEY,
   name VARCHAR(100) NOT NULL,
   address VARCHAR(255),
   phone VARCHAR(20),
   created_at DATETIME DEFAULT CURRENT_TIMESTAMP,
   updated_at DATETIME DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP
);

-- Delivery partners (Riders)
CREATE TABLE Delivery_Partners (
   delivery_partner_id INT AUTO_INCREMENT PRIMARY KEY,
   name VARCHAR(100),
   phone VARCHAR(20),
   created_at DATETIME DEFAULT CURRENT_TIMESTAMP,
   updated_at DATETIME DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP
);

-- Menu: added stock column to simulate inventory
CREATE TABLE Menu (
   menu_id INT AUTO_INCREMENT PRIMARY KEY,
   restaurant_id INT NOT NULL,
   name VARCHAR(100) NOT NULL,
   price DECIMAL(8,2) NOT NULL COMMENT 'Price in INR',
   category VARCHAR(50),
   stock INT DEFAULT 100, -- inventory for demo
   created_at DATETIME DEFAULT CURRENT_TIMESTAMP,
   updated_at DATETIME DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP,
   FOREIGN KEY (restaurant_id) REFERENCES Restaurants(restaurant_id)
);

-- Orders
CREATE TABLE Orders (
   order_id INT AUTO_INCREMENT PRIMARY KEY,
   user_id INT NOT NULL,
   order_date DATETIME DEFAULT CURRENT_TIMESTAMP,
   total_amount DECIMAL(10,2) DEFAULT 0.00,
   status ENUM('Pending', 'Confirmed', 'Out for Delivery', 'Delivered', 'Cancelled') DEFAULT 'Pending',
   delivery_partner_id INT DEFAULT NULL,
   coupon_code VARCHAR(50),
   created_at DATETIME DEFAULT CURRENT_TIMESTAMP,
   updated_at DATETIME DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP,
   FOREIGN KEY (user_id) REFERENCES Users(user_id),
   FOREIGN KEY (delivery_partner_id) REFERENCES Delivery_Partners(delivery_partner_id)
);

-- Order items (junction)
CREATE TABLE Order_Items (
   order_item_id INT AUTO_INCREMENT PRIMARY KEY,
   order_id INT NOT NULL,
   menu_id INT NOT NULL,
   quantity INT DEFAULT 1,
   created_at DATETIME DEFAULT CURRENT_TIMESTAMP,
```

```
  updated_at DATETIME DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP,
  FOREIGN KEY (order_id) REFERENCES Orders(order_id),
  FOREIGN KEY (menu_id) REFERENCES Menu(menu_id),
  CHECK (quantity > 0)
);

-- Cart (unique per user/menu: a user can't have duplicate rows for same menu)
CREATE TABLE Cart (
  cart_id INT AUTO_INCREMENT PRIMARY KEY,
  user_id INT NOT NULL,
  menu_id INT NOT NULL,
  quantity INT DEFAULT 1,
  created_at DATETIME DEFAULT CURRENT_TIMESTAMP,
  updated_at DATETIME DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP,
  FOREIGN KEY (user_id) REFERENCES Users(user_id),
  FOREIGN KEY (menu_id) REFERENCES Menu(menu_id),
  UNIQUE KEY uniq_user_menu (user_id, menu_id),
  CHECK (quantity > 0)
);

-- Reviews
CREATE TABLE Reviews (
  review_id INT AUTO_INCREMENT PRIMARY KEY,
  user_id INT NOT NULL,
  restaurant_id INT NOT NULL,
  rating INT NOT NULL CHECK (rating BETWEEN 1 AND 5),
  comment VARCHAR(500),
  review_date DATETIME DEFAULT CURRENT_TIMESTAMP,
  created_at DATETIME DEFAULT CURRENT_TIMESTAMP,
  updated_at DATETIME DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP,
  FOREIGN KEY (user_id) REFERENCES Users(user_id),
  FOREIGN KEY (restaurant_id) REFERENCES Restaurants(restaurant_id)
);

-- Payments
CREATE TABLE Payments (
  payment_id INT AUTO_INCREMENT PRIMARY KEY,
  order_id INT NOT NULL,
  payment_date DATETIME DEFAULT CURRENT_TIMESTAMP,
  amount DECIMAL(10,2),
  method VARCHAR(50),
  status ENUM('Pending', 'Completed', 'Failed') DEFAULT 'Pending',
  created_at DATETIME DEFAULT CURRENT_TIMESTAMP,
  updated_at DATETIME DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP,
  FOREIGN KEY (order_id) REFERENCES Orders(order_id)
);

-- Order status history (audit log)
CREATE TABLE Order_Status_History (
  history_id INT AUTO_INCREMENT PRIMARY KEY,
  order_id INT NOT NULL,
  old_status VARCHAR(50),
  new_status VARCHAR(50),
  changed_at DATETIME DEFAULT CURRENT_TIMESTAMP,
  changed_by VARCHAR(100) DEFAULT 'system',
  FOREIGN KEY (order_id) REFERENCES Orders(order_id)
);

-- Coupons
CREATE TABLE Coupons (
  coupon_id INT AUTO_INCREMENT PRIMARY KEY,
  code VARCHAR(50) UNIQUE,
  discount_percent INT CHECK (discount_percent BETWEEN 0 AND 100),
  max_discount_amount DECIMAL(10,2),
  expiry_date DATE,
  active BOOLEAN DEFAULT TRUE,
  created_at DATETIME DEFAULT
  CURRENT_TIMESTAMP
);

-- SAMPLE DATA
```

```
-- Users
INSERT INTO Users (name, email, phone, address) VALUES
('Alice', 'alice@example.com', '9876543210', '123 Main St, Bangalore'),
('Bob', 'bob@example.com', '9123456780', '456 Oak Rd, Bangalore'),
('Charlie', 'charlie@example.com', '9988776655', '78 Park Lane, Bangalore'),
('Diana', 'diana@example.com', '9871234567', '90 Elm St, Bangalore'),
('Eve', 'eve@example.com', '9765432109', '21 Maple Ave, Bangalore'),
('Frank', 'frank@example.com', '9122334455', '33 Cedar Rd, Bangalore'),
('Grace', 'grace@example.com', '9233445566', '55 Spruce St, Bangalore');

-- Restaurants
INSERT INTO Restaurants (name, address, phone) VALUES
('Pizza Palace', '12 Baker St, Bangalore', '9112345678'),
('Sushi World', '34 Maple Ave, Bangalore', '9223456789'),
('Burger Hub', '56 Oak St, Bangalore', '9334455667'),
('Curry House', '78 Pine Rd, Bangalore', '9445566778'),
('Taco Town', '90 Cedar Ave, Bangalore', '9556677889'),
('Pasta Corner', '101 Main Rd, Bangalore', '9667788990'),
('Sandwich Stop', '202 Elm St, Bangalore', '9778899001');

-- Delivery partners
INSERT INTO Delivery_Partners (name, phone) VALUES
('John Doe', '9000000001'),
('Jane Smith', '9000000002'),
('Mike Johnson', '9000000003'),
('Sara Lee', '9000000004'),
('Tom Brown', '9000000005'),
('Linda White', '9000000006'),
('Kevin Black', '9000000007');

-- Menu (35+ items) — includes stock values
INSERT INTO Menu (restaurant_id, name, price, category, stock) VALUES
(1, 'Pepperoni Pizza', 325.00, 'Pizza', 30),
(1, 'Veggie Pizza', 280.00, 'Pizza', 40),
(1, 'Cheese Pizza', 300.00, 'Pizza', 35),
(1, 'Margherita Pizza', 290.00, 'Pizza', 25),
(1, 'Garlic Bread', 120.00, 'Sides', 50),
(1, 'Mozzarella Sticks', 150.00, 'Sides', 40),
(1, 'Coke', 50.00, 'Drink', 200),
(1, 'Pepsi', 50.00, 'Drink', 200),
(1, 'Chocolate Lava Cake', 180.00, 'Dessert', 30),
(2, 'Salmon Sushi', 340.00, 'Sushi', 20),
(2, 'Tuna Roll', 280.00, 'Sushi', 25),
(2, 'Veggie Roll', 250.00, 'Sushi', 30),
(2, 'Dragon Roll', 360.00, 'Sushi', 15),
(2, 'Miso Soup', 100.00, 'Sides', 50),
(2, 'Edamame', 120.00, 'Sides', 50),
(2, 'Green Tea', 60.00, 'Drink', 100),
(2, 'Mochi Ice Cream', 150.00, 'Dessert', 20),
(3, 'Cheeseburger', 150.00, 'Burger', 60),
(3, 'Veggie Burger', 120.00, 'Burger', 50),
(3, 'Chicken Burger', 170.00, 'Burger', 70),
(3, 'Fries', 80.00, 'Sides', 120),
(3, 'Chicken Nuggets', 100.00, 'Sides', 90),
(3, 'Pepsi', 50.00, 'Drink', 200),
(3, 'Milkshake', 120.00, 'Drink', 60),
(4, 'Butter Chicken', 400.00, 'Curry', 30),
(4, 'Paneer Tikka', 350.00, 'Curry', 35),
(4, 'Dal Makhani', 300.00, 'Curry', 40),
(4, 'Naan', 60.00, 'Bread', 200),
(4, 'Jeera Rice', 120.00, 'Rice', 150),
(4, 'Mango Lassi', 90.00, 'Drink', 100),
(4, 'Gulab Jamun', 80.00, 'Dessert', 50),
(5, 'Chicken Taco', 110.00, 'Taco', 50),
(5, 'Beef Taco', 120.00, 'Taco', 40),
(5, 'Veggie Taco', 100.00, 'Taco', 45),
(5, 'Nachos', 140.00, 'Sides', 60),
(5, 'Salsa Dip', 60.00, 'Sides', 200),
(5, 'Coke', 50.00, 'Drink', 200),
(5, 'Churros', 130.00, 'Dessert', 40),
(6, 'Spaghetti Bolognese', 320.00, 'Pasta', 30),
(6, 'Penne Alfredo', 300.00, 'Pasta', 30),
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```
(6, 'Mac & Cheese', 280.00, 'Pasta', 30),
(6, 'Garlic Breadsticks', 100.00, 'Sides', 80),
(6, 'Caesar Salad', 150.00, 'Salad', 40),
(6, 'Orange Juice', 80.00, 'Drink', 100),
(6, 'Tiramisu', 180.00, 'Dessert', 20),
(7, 'Chicken Sandwich', 180.00, 'Sandwich', 40),
(7, 'Veggie Sandwich', 150.00, 'Sandwich', 50),
(7, 'Club Sandwich', 200.00, 'Sandwich', 30),
(7, 'French Fries', 80.00, 'Sides', 100),
(7, 'Cold Coffee', 90.00, 'Drink', 80),
(7, 'Brownie', 120.00, 'Dessert', 25),
(7, 'Grilled Cheese', 160.00, 'Sandwich', 35);

-- Orders (sample)
INSERT INTO Orders (user_id, total_amount, status, delivery_partner_id) VALUES
(1, 550.00, 'Pending', 1),
(2, 780.00, 'Delivered', 2),
(3, 430.00, 'Out for Delivery', 3),
(4, 600.00, 'Delivered', 4),
(5, 320.00, 'Pending', 5),
(6, 750.00, 'Cancelled', 1),
(7, 900.00, 'Delivered', 2);

-- Order_Items (sample)
INSERT INTO Order_Items (order_id, menu_id, quantity) VALUES
(1, 1, 1),(1, 5,2),(1, 9,1),
(2, 2, 1),(2,6,2),(2,17,1),
(3, 7, 2),(3,10,1),(3,12,1),
(4, 11, 1),(4,12,2),(4,18,1),
(5, 13, 2),(5,15,1),
(6, 3, 2),(6,11,1),(6,20,1),
(7, 2, 1),(7,14,2),(7,17,1);

-- Cart (sample)
INSERT INTO Cart (user_id, menu_id, quantity) VALUES
(1, 2, 1),(1, 5,2),
(2, 10,1),(2, 14,1),
(3, 3,1),(3, 6,2),
(4, 7,1),(4, 12,1),
(5, 18,1),(5, 20,2),
(6, 1,1),(6, 4,1),
(7, 2,1),(7, 5,1);

-- Reviews (sample)
INSERT INTO Reviews (user_id, restaurant_id, rating, comment) VALUES
(1, 1, 5, 'Absolutely loved the pepperoni pizza! Perfect crust.'),
(2, 1, 4, 'Pizza was good but a bit cold.'),
(3, 1, 5, 'Cheese Pizza was delicious.'),
(4, 2, 5, 'Fresh sushi and fast delivery!'),
(5, 2, 4, 'Tuna Roll was tasty but rice slightly overcooked.'),
(6, 2, 3, 'Good sushi but limited variety.'),
(7, 3, 4, 'Cheeseburger was juicy, fries were crispy.');

-- Payments (sample)
INSERT INTO Payments (order_id, amount, method, status) VALUES
(1, 550.00, 'Credit Card', 'Completed'),
(2, 780.00, 'UPI', 'Completed'),
(3, 430.00, 'Wallet', 'Pending'),
(4, 600.00, 'Debit Card', 'Completed'),
(5, 320.00, 'Cash', 'Pending'),
(6, 750.00, 'Credit Card', 'Failed'),
(7, 900.00, 'UPI', 'Completed');

-- Coupons sample
INSERT INTO Coupons (code, discount_percent, max_discount_amount, expiry_date) VALUES
('WELCOME10', 10, 100.00, CURDATE() + INTERVAL 90 DAY),
('BIGSALE25', 25, 300.00, CURDATE() + INTERVAL 30 DAY);



-- FINAL
SHOW TABLES;
```

```
SELECT * FROM Users LIMIT 5;
SELECT * FROM Restaurants LIMIT 5;
SELECT * FROM Menu LIMIT 10;
SELECT * FROM Orders LIMIT 10;
SELECT * FROM Order_Items LIMIT 10;
SELECT * FROM Cart LIMIT 10;
SELECT * FROM Payments LIMIT 10;
SELECT * FROM Reviews LIMIT 10;

ALTER TABLE Users ADD COLUMN password VARCHAR(255);
-- Update existing users with hashed passwords
UPDATE Users SET password = SHA2('alice123', 256) WHERE email='alice@example.com';
UPDATE Users SET password = SHA2('bob123', 256) WHERE email='bob@example.com';
UPDATE Users SET password = SHA2('charlie123', 256) WHERE email='charlie@example.com';
UPDATE Users SET password = SHA2('diana123', 256) WHERE email='diana@example.com';
UPDATE Users SET password = SHA2('eve123', 256) WHERE email='eve@example.com';
UPDATE Users SET password = SHA2('frank123', 256) WHERE email='frank@example.com';
UPDATE Users SET password = SHA2('grace123', 256) WHERE email='grace@example.com';

USE FoodOrdering;
-- Function: GetOrderTotal
DELIMITER //
CREATE FUNCTION GetOrderTotal(p_order_id INT)
RETURNS DECIMAL(10,2)
DETERMINISTIC
BEGIN
  DECLARE total DECIMAL(10,2) DEFAULT 0.00;
  SELECT IFNULL(SUM(m.price * oi.quantity), 0.00) INTO total
  FROM Order_Items oi
  JOIN Menu m ON oi.menu_id = m.menu_id
  WHERE oi.order_id = p_order_id;
  RETURN total;
END;
//
DELIMITER ;

-- Function: GetRestaurantAvgRating
DELIMITER //
CREATE FUNCTION GetRestaurantAvgRating(p_restaurant_id INT)
RETURNS DECIMAL(3,2)
DETERMINISTIC
BEGIN
  DECLARE avg_rating DECIMAL(3,2);
  SELECT IFNULL(AVG(rating), 0.00) INTO avg_rating
  FROM Reviews
  WHERE restaurant_id = p_restaurant_id;
  RETURN avg_rating;
END;
//
DELIMITER ;

-- Functions Created
SHOW FUNCTION STATUS WHERE Db = 'FoodOrdering';

SELECT order_id FROM Orders;
SELECT GetOrderTotal(10) AS OrderTotal;

SELECT restaurant_id, name FROM Restaurants;
SELECT GetRestaurantAvgRating(1) AS AverageRating;

SELECT restaurant_id, AVG(rating) AS manual_avg
FROM Reviews
GROUP BY restaurant_id;

-- procedure
DELIMITER //
CREATE PROCEDURE PlaceOrderFromCart(IN p_user_id INT, IN p_delivery_partner_id INT)
BEGIN
  DECLARE v_order_id INT;

  -- 1. Create an order entry
  INSERT INTO Orders (user_id, total_amount, status, delivery_partner_id)
```

```
    VALUES (p_user_id, 0.00, 'Pending', p_delivery_partner_id);

    SET v_order_id = LAST_INSERT_ID();

    -- 2. Copy all cart items into Order_Items
    INSERT INTO Order_Items (order_id, menu_id, quantity)
    SELECT v_order_id, menu_id, quantity FROM Cart WHERE user_id = p_user_id;

    -- 3. Calculate total and update Orders table
    UPDATE Orders
    SET total_amount = GetOrderTotal(v_order_id)
    WHERE order_id = v_order_id;

    -- 4. Clear the user's cart
    DELETE FROM Cart WHERE user_id = p_user_id;
END;
//
DELIMITER ;

DELIMITER //
CREATE PROCEDURE AddReview(
    IN p_user_id INT,
    IN p_restaurant_id INT,
    IN p_rating INT,
    IN p_comment VARCHAR(500)
)
BEGIN
    IF p_rating < 1 OR p_rating > 5 THEN
        SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'Rating must be between 1 and 5';
    END IF;

    INSERT INTO Reviews (user_id, restaurant_id, rating, comment)
    VALUES (p_user_id, p_restaurant_id, p_rating, p_comment);
END;
//
DELIMITER ;

SHOW PROCEDURE STATUS WHERE Db='FoodOrdering';

SELECT * FROM Orders ORDER BY order_id DESC LIMIT 5;
SELECT * FROM Cart WHERE user_id = 1;

CALL PlaceOrderFromCart(1, 1);

SELECT * FROM Orders ORDER BY order_id DESC LIMIT 5;
SELECT * FROM Cart WHERE user_id = 1;
SELECT * FROM Order_Items WHERE order_id = (SELECT MAX(order_id) FROM Orders WHERE user_id=1);

CALL AddReview(1, 1, 5, 'Excellent food and service!');

SELECT * FROM Reviews WHERE user_id=1 ORDER BY review_date DESC LIMIT 3;

-- triggers

DELIMITER //
CREATE TRIGGER trg_after_insert_order_item
AFTER INSERT ON Order_Items
FOR EACH ROW
BEGIN
    -- Decrease stock for ordered item
    UPDATE Menu
    SET stock = stock - NEW.quantity
    WHERE menu_id = NEW.menu_id;

    -- If stock goes negative, signal error
    IF (SELECT stock FROM Menu WHERE menu_id = NEW.menu_id) < 0 THEN
        SIGNAL SQLSTATE '45000'
        SET MESSAGE_TEXT = 'Insufficient stock for the menu item';
    END IF;

    -- Recalculate order total
    UPDATE Orders
```

```
    SET total_amount = GetOrderTotal(NEW.order_id)
    WHERE order_id = NEW.order_id;
END;
//
DELIMITER ;
DELIMITER //
CREATE TRIGGER trg_after_delete_order_item
AFTER DELETE ON Order_Items
FOR EACH ROW
BEGIN
    UPDATE Menu
    SET stock = stock + OLD.quantity
    WHERE menu_id = OLD.menu_id;

     UPDATE Orders
    SET total_amount = GetOrderTotal(OLD.order_id)
    WHERE order_id = OLD.order_id;
END;
//
DELIMITER ;
DELIMITER //
CREATE TRIGGER trg_orders_update_status_after
AFTER UPDATE ON Orders
FOR EACH ROW
BEGIN
    IF NEW.status <> OLD.status THEN
        INSERT INTO Order_Status_History (order_id, old_status, new_status, changed_by)
        VALUES (NEW.order_id, OLD.status, NEW.status, 'system');
    END IF;
END;
//
DELIMITER ;

 SHOW TRIGGERS;

SELECT menu_id, stock FROM Menu WHERE menu_id = 1;
SELECT total_amount FROM Orders WHERE order_id = 1;

INSERT INTO Order_Items (order_id, menu_id, quantity) VALUES (1, 1, 2);

SELECT menu_id, stock FROM Menu WHERE menu_id = 1;
SELECT total_amount FROM Orders WHERE order_id = 1;

SELECT stock FROM Menu WHERE menu_id = 1;

DELETE FROM Order_Items
WHERE order_item_id = (
    SELECT t.order_item_id
    FROM (
        SELECT MAX(order_item_id) AS order_item_id
        FROM Order_Items
        WHERE menu_id = 1
    ) AS t
);
SELECT stock FROM Menu WHERE menu_id = 1;

SELECT * FROM Order_Status_History WHERE order_id = 1;



UPDATE Orders SET status='Delivered' WHERE order_id=1;

SELECT * FROM Order_Status_History WHERE order_id = 1;

SELECT * FROM Cart WHERE user_id=1 AND menu_id=1;
INSERT INTO Cart (user_id, menu_id, quantity) VALUES (1,1,2);
SELECT * FROM Cart WHERE user_id=1 AND menu_id=1;


SELECT * FROM Users;

UPDATE Orders SET status='Delivered' WHERE order_id=5;
```

```
SELECT * FROM Orders;

DELETE FROM Cart WHERE user_id=1 AND menu_id=2;



DELIMITER $$

ALTER TABLE Payments
ADD COLUMN coupon_code VARCHAR(50) NULL;

SHOW CREATE PROCEDURE PlaceOrderFromCart;
USE FoodOrdering;

DROP PROCEDURE IF EXISTS PlaceOrderFromCart;
DELIMITER //

CREATE PROCEDURE PlaceOrderFromCart(
   IN p_user_id INT,
   IN p_delivery_partner_id INT
)
BEGIN
   DECLARE v_order_id INT;

   -- 1. Create new order with assigned delivery partner
   INSERT INTO Orders (user_id, total_amount, status, delivery_partner_id)
   VALUES (p_user_id, 0.00, 'Pending', p_delivery_partner_id);

   SET v_order_id = LAST_INSERT_ID();

   -- 2. Copy cart items to Order_Items
   INSERT INTO Order_Items (order_id, menu_id, quantity)
   SELECT v_order_id, menu_id, quantity
   FROM Cart
   WHERE user_id = p_user_id;

   -- 3. Update total in Orders
   UPDATE Orders
   SET total_amount = GetOrderTotal(v_order_id)
   WHERE order_id = v_order_id;

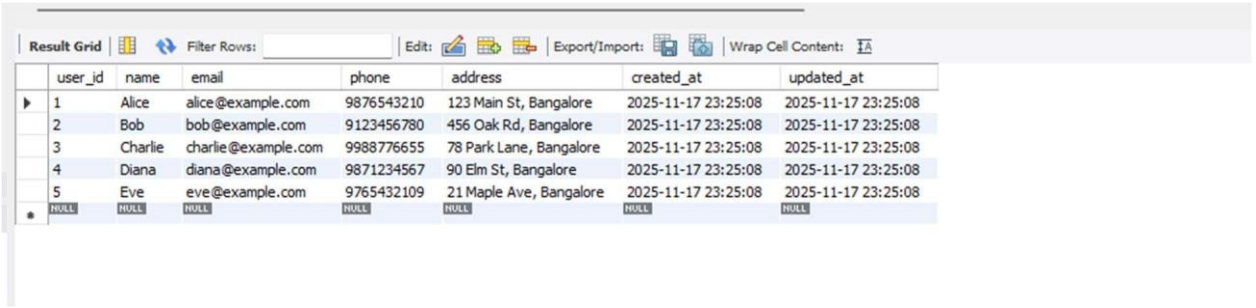
   -- 4. Clear the user's cart
   DELETE FROM Cart WHERE user_id = p_user_id;
END;
//
DELIMITER ;


CALL PlaceOrderFromCart(1, 3);
SELECT order_id, user_id, delivery_partner_id
FROM Orders
ORDER BY order_id DESC LIMIT 3;
```

5. CRUD Operations

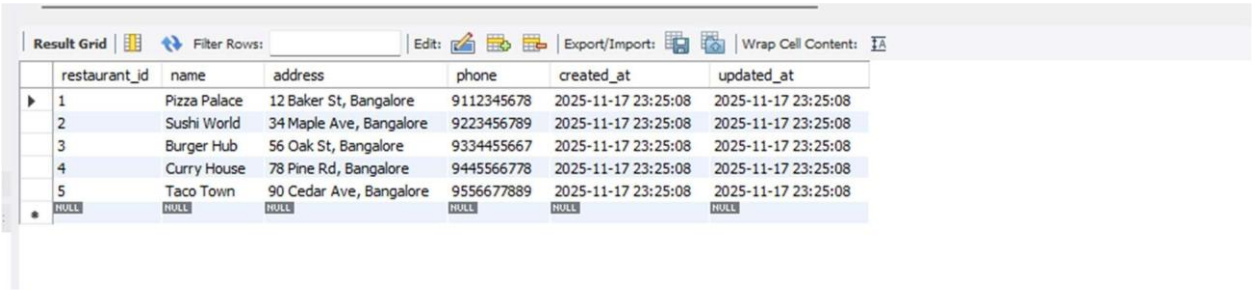
INSERT:

```
SHOW TABLES;
SELECT * FROM Users LIMIT 5;
SELECT * FROM Restaurants LIMIT 5;
SELECT * FROM Menu LIMIT 10;
SELECT * FROM Orders LIMIT 10;
SELECT * FROM Order_Items LIMIT 10;
SELECT * FROM Cart LIMIT 10;
SELECT * FROM Payments LIMIT 10;
SELECT * FROM Reviews LIMIT 10;
```



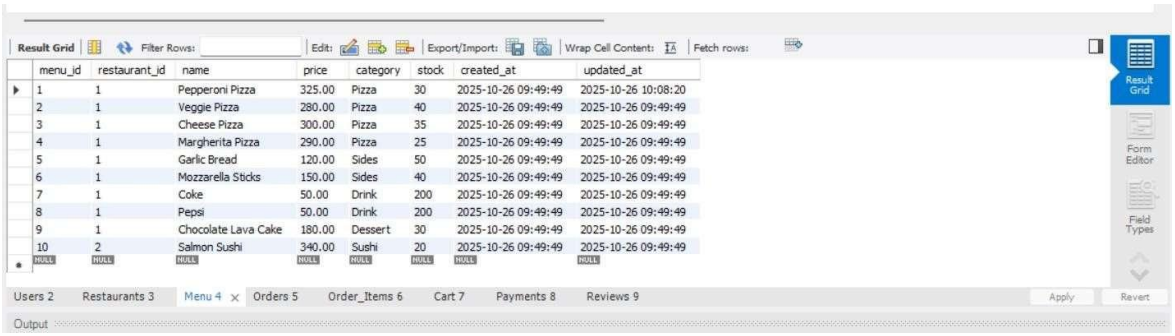
Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

user_id	name	email	phone	address	created_at	updated_at
1	Alice	alice@example.com	9876543210	123 Main St, Bangalore	2025-11-17 23:25:08	2025-11-17 23:25:08
2	Bob	bob@example.com	9123456780	456 Oak Rd, Bangalore	2025-11-17 23:25:08	2025-11-17 23:25:08
3	Charlie	charlie@example.com	9988776655	78 Park Lane, Bangalore	2025-11-17 23:25:08	2025-11-17 23:25:08
4	Diana	diana@example.com	9871234567	90 Elm St, Bangalore	2025-11-17 23:25:08	2025-11-17 23:25:08
5	Eve	eve@example.com	9765432109	21 Maple Ave, Bangalore	2025-11-17 23:25:08	2025-11-17 23:25:08
NULL	NULL	NULL	NULL	NULL	NULL	NULL



Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

restaurant_id	name	address	phone	created_at	updated_at
1	Pizza Palace	12 Baker St, Bangalore	9112345678	2025-11-17 23:25:08	2025-11-17 23:25:08
2	Sushi World	34 Maple Ave, Bangalore	9223456789	2025-11-17 23:25:08	2025-11-17 23:25:08
3	Burger Hub	56 Oak St, Bangalore	9334455667	2025-11-17 23:25:08	2025-11-17 23:25:08
4	Curry House	78 Pine Rd, Bangalore	9445566778	2025-11-17 23:25:08	2025-11-17 23:25:08
5	Taco Town	90 Cedar Ave, Bangalore	9556677889	2025-11-17 23:25:08	2025-11-17 23:25:08
NULL	NULL	NULL	NULL	NULL	NULL



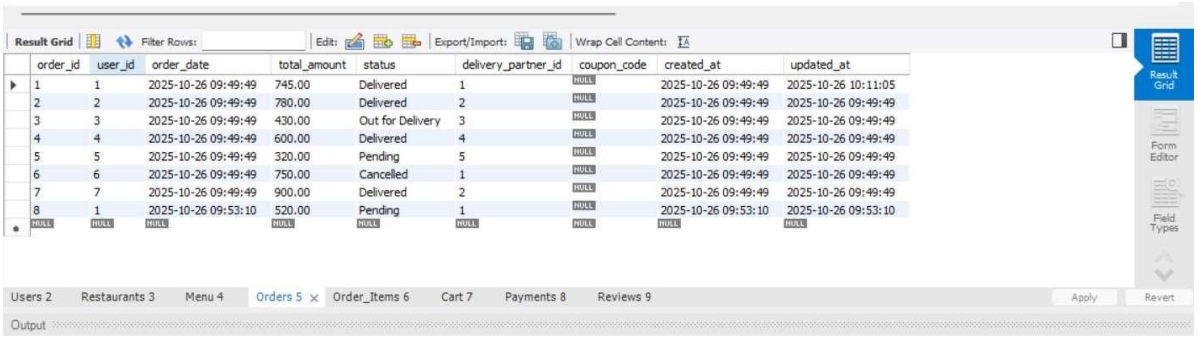
Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: | Fetch rows:

menu_id	restaurant_id	name	price	category	stock	created_at	updated_at
1	1	Pepperoni Pizza	325.00	Pizza	30	2025-10-26 09:49:49	2025-10-26 10:08:20
2	1	Veggie Pizza	280.00	Pizza	40	2025-10-26 09:49:49	2025-10-26 09:49:49
3	1	Cheese Pizza	300.00	Pizza	35	2025-10-26 09:49:49	2025-10-26 09:49:49
4	1	Margherita Pizza	290.00	Pizza	25	2025-10-26 09:49:49	2025-10-26 09:49:49
5	1	Garlic Bread	120.00	Sides	50	2025-10-26 09:49:49	2025-10-26 09:49:49
6	1	Mozzarella Sticks	150.00	Sides	40	2025-10-26 09:49:49	2025-10-26 09:49:49
7	1	Coke	50.00	Drink	200	2025-10-26 09:49:49	2025-10-26 09:49:49
8	1	Pepsi	50.00	Drink	200	2025-10-26 09:49:49	2025-10-26 09:49:49
9	1	Chocolate Lava Cake	180.00	Dessert	30	2025-10-26 09:49:49	2025-10-26 09:49:49
10	2	Salmon Sushi	340.00	Sushi	20	2025-10-26 09:49:49	2025-10-26 09:49:49
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

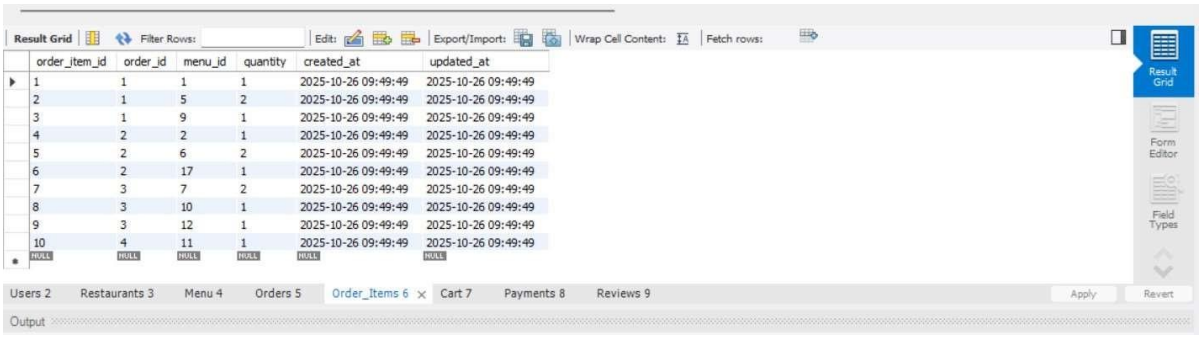
Result Grid | Form Editor | Field Types

Users 2 | Restaurants 3 | Menu 4 | Orders 5 | Order_Items 6 | Cart 7 | Payments 8 | Reviews 9 | Apply | Revert

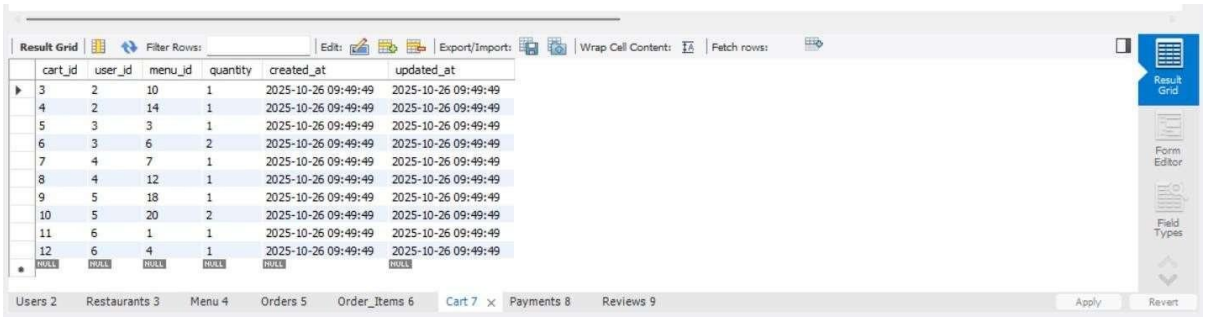
Output



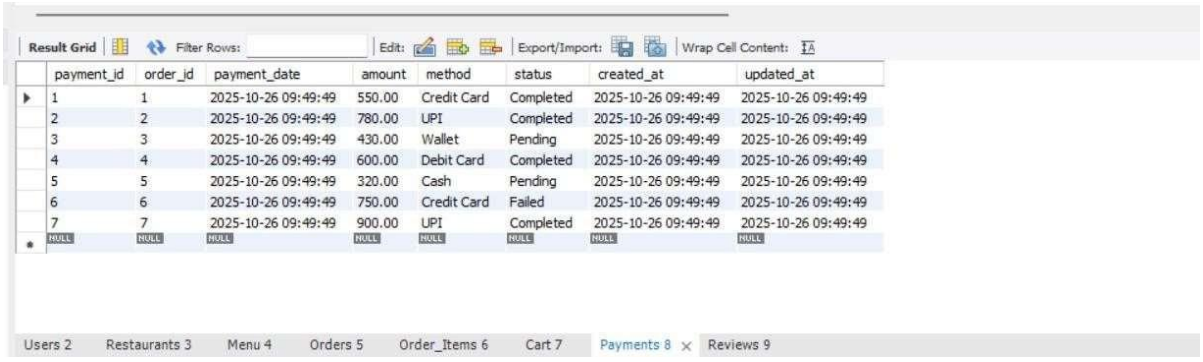
order_id	user_id	order_date	total_amount	status	delivery_partner_id	coupon_code	created_at	updated_at
1	1	2025-10-26 09:49:49	745.00	Delivered	1	NULL	2025-10-26 09:49:49	2025-10-26 10:11:05
2	2	2025-10-26 09:49:49	780.00	Delivered	2	NULL	2025-10-26 09:49:49	2025-10-26 09:49:49
3	3	2025-10-26 09:49:49	430.00	Out for Delivery	3	NULL	2025-10-26 09:49:49	2025-10-26 09:49:49
4	4	2025-10-26 09:49:49	600.00	Delivered	4	NULL	2025-10-26 09:49:49	2025-10-26 09:49:49
5	5	2025-10-26 09:49:49	320.00	Pending	5	NULL	2025-10-26 09:49:49	2025-10-26 09:49:49
6	6	2025-10-26 09:49:49	750.00	Cancelled	1	NULL	2025-10-26 09:49:49	2025-10-26 09:49:49
7	7	2025-10-26 09:49:49	900.00	Delivered	2	NULL	2025-10-26 09:49:49	2025-10-26 09:49:49
8	1	2025-10-26 09:53:10	520.00	Pending	1	NULL	2025-10-26 09:53:10	2025-10-26 09:53:10



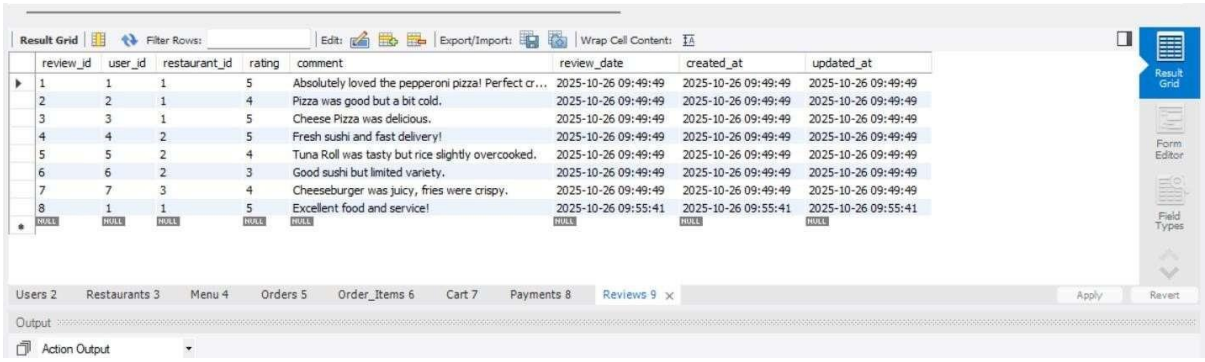
order_item_id	order_id	menu_id	quantity	created_at	updated_at
1	1	1	1	2025-10-26 09:49:49	2025-10-26 09:49:49
2	1	5	2	2025-10-26 09:49:49	2025-10-26 09:49:49
3	1	9	1	2025-10-26 09:49:49	2025-10-26 09:49:49
4	2	2	1	2025-10-26 09:49:49	2025-10-26 09:49:49
5	2	6	2	2025-10-26 09:49:49	2025-10-26 09:49:49
6	2	17	1	2025-10-26 09:49:49	2025-10-26 09:49:49
7	3	7	2	2025-10-26 09:49:49	2025-10-26 09:49:49
8	3	10	1	2025-10-26 09:49:49	2025-10-26 09:49:49
9	3	12	1	2025-10-26 09:49:49	2025-10-26 09:49:49
10	4	11	1	2025-10-26 09:49:49	2025-10-26 09:49:49



cart_id	user_id	menu_id	quantity	created_at	updated_at
3	2	10	1	2025-10-26 09:49:49	2025-10-26 09:49:49
4	2	14	1	2025-10-26 09:49:49	2025-10-26 09:49:49
5	3	3	1	2025-10-26 09:49:49	2025-10-26 09:49:49
6	3	6	2	2025-10-26 09:49:49	2025-10-26 09:49:49
7	4	7	1	2025-10-26 09:49:49	2025-10-26 09:49:49
8	4	12	1	2025-10-26 09:49:49	2025-10-26 09:49:49
9	5	18	1	2025-10-26 09:49:49	2025-10-26 09:49:49
10	5	20	2	2025-10-26 09:49:49	2025-10-26 09:49:49
11	6	1	1	2025-10-26 09:49:49	2025-10-26 09:49:49
12	6	4	1	2025-10-26 09:49:49	2025-10-26 09:49:49



payment_id	order_id	payment_date	amount	method	status	created_at	updated_at
1	1	2025-10-26 09:49:49	550.00	Credit Card	Completed	2025-10-26 09:49:49	2025-10-26 09:49:49
2	2	2025-10-26 09:49:49	780.00	UPI	Completed	2025-10-26 09:49:49	2025-10-26 09:49:49
3	3	2025-10-26 09:49:49	430.00	Wallet	Pending	2025-10-26 09:49:49	2025-10-26 09:49:49
4	4	2025-10-26 09:49:49	600.00	Debit Card	Completed	2025-10-26 09:49:49	2025-10-26 09:49:49
5	5	2025-10-26 09:49:49	320.00	Cash	Pending	2025-10-26 09:49:49	2025-10-26 09:49:49
6	6	2025-10-26 09:49:49	750.00	Credit Card	Failed	2025-10-26 09:49:49	2025-10-26 09:49:49
7	7	2025-10-26 09:49:49	900.00	UPI	Completed	2025-10-26 09:49:49	2025-10-26 09:49:49



review_id	user_id	restaurant_id	rating	comment	review_date	created_at	updated_at
1	1	1	5	Absolutely loved the pepperoni pizza! Perfect cr...	2025-10-26 09:49:49	2025-10-26 09:49:49	2025-10-26 09:49:49
2	2	1	4	Pizza was good but a bit cold.	2025-10-26 09:49:49	2025-10-26 09:49:49	2025-10-26 09:49:49
3	3	1	5	Cheese Pizza was delicious.	2025-10-26 09:49:49	2025-10-26 09:49:49	2025-10-26 09:49:49
4	4	2	5	Fresh sushi and fast delivery!	2025-10-26 09:49:49	2025-10-26 09:49:49	2025-10-26 09:49:49
5	5	2	4	Tuna Roll was tasty but rice slightly overcooked.	2025-10-26 09:49:49	2025-10-26 09:49:49	2025-10-26 09:49:49
6	6	2	3	Good sushi but limited variety.	2025-10-26 09:49:49	2025-10-26 09:49:49	2025-10-26 09:49:49
7	7	3	4	Cheeseburger was juicy, fries were crispy.	2025-10-26 09:49:49	2025-10-26 09:49:49	2025-10-26 09:49:49
8	1	1	5	Excellent food and service!	2025-10-26 09:55:41	2025-10-26 09:55:41	2025-10-26 09:55:41

UPDATE:

```
501
502 •  UPDATE Orders SET status='Delivered' WHERE order_id=5;
503 •  SELECT * FROM Orders;
504
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

order_id	user_id	order_date	total_amount	status	delivery_partner_id	coupon_code	created_at	updated_at
1	1	2025-10-26 09:49:49	745.00	Delivered	1	NULL	2025-10-26 09:49:49	2025-10-26 10:11:05
2	2	2025-10-26 09:49:49	780.00	Delivered	2	NULL	2025-10-26 09:49:49	2025-10-26 09:49:49
3	3	2025-10-26 09:49:49	430.00	Out for Delivery	3	NULL	2025-10-26 09:49:49	2025-10-26 09:49:49
4	4	2025-10-26 09:49:49	600.00	Delivered	4	NULL	2025-10-26 09:49:49	2025-10-26 09:49:49
5	5	2025-10-26 09:49:49	320.00	Delivered	5	NULL	2025-10-26 09:49:49	2025-10-26 13:02:41
6	6	2025-10-26 09:49:49	750.00	Cancelled	1	NULL	2025-10-26 09:49:49	2025-10-26 09:49:49
7	7	2025-10-26 09:49:49	900.00	Delivered	2	NULL	2025-10-26 09:49:49	2025-10-26 09:49:49
8	1	2025-10-26 09:53:10	520.00	Pending	1	NULL	2025-10-26 09:53:10	2025-10-26 09:53:10
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Result Grid | Form Editor | Field Types | Orders 11 | Apply | Revert | Output

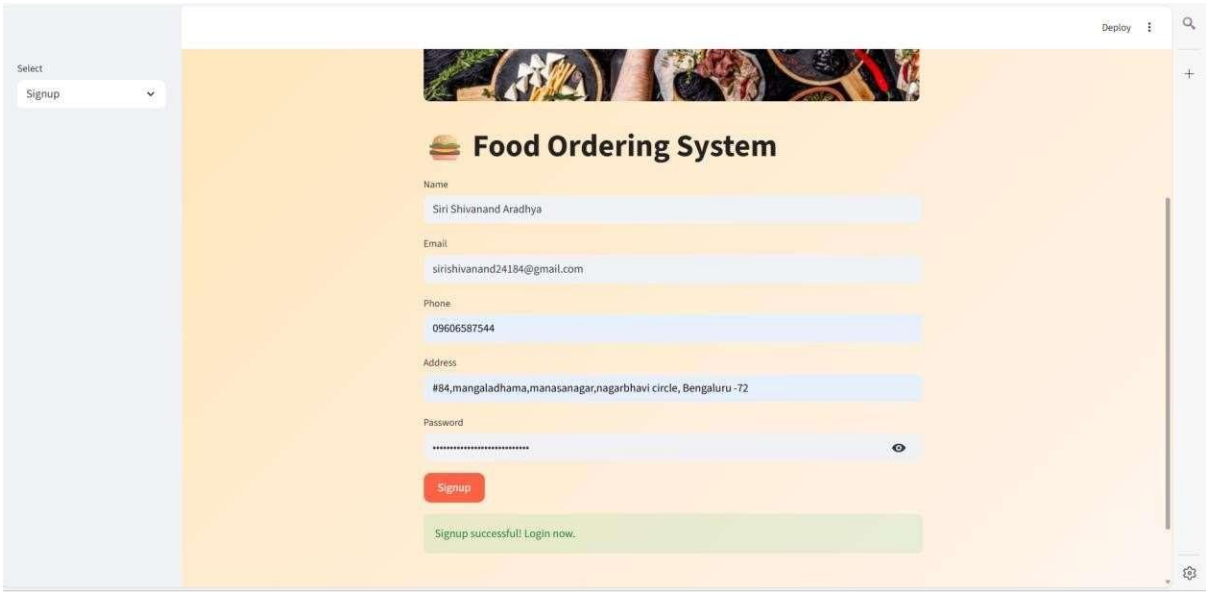
DELETE:

DELETE FROM Cart WHERE user_id=1 AND menu_id=2;

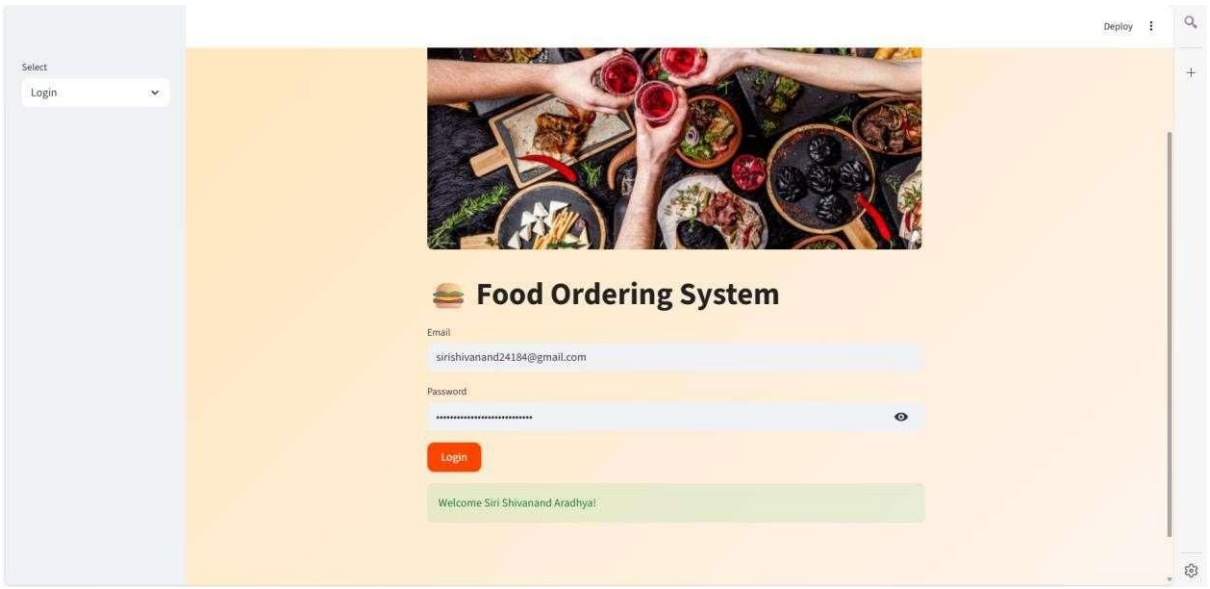
6. List of functionalities/features of the application and its associated screenshots using front end

USER PORTAL

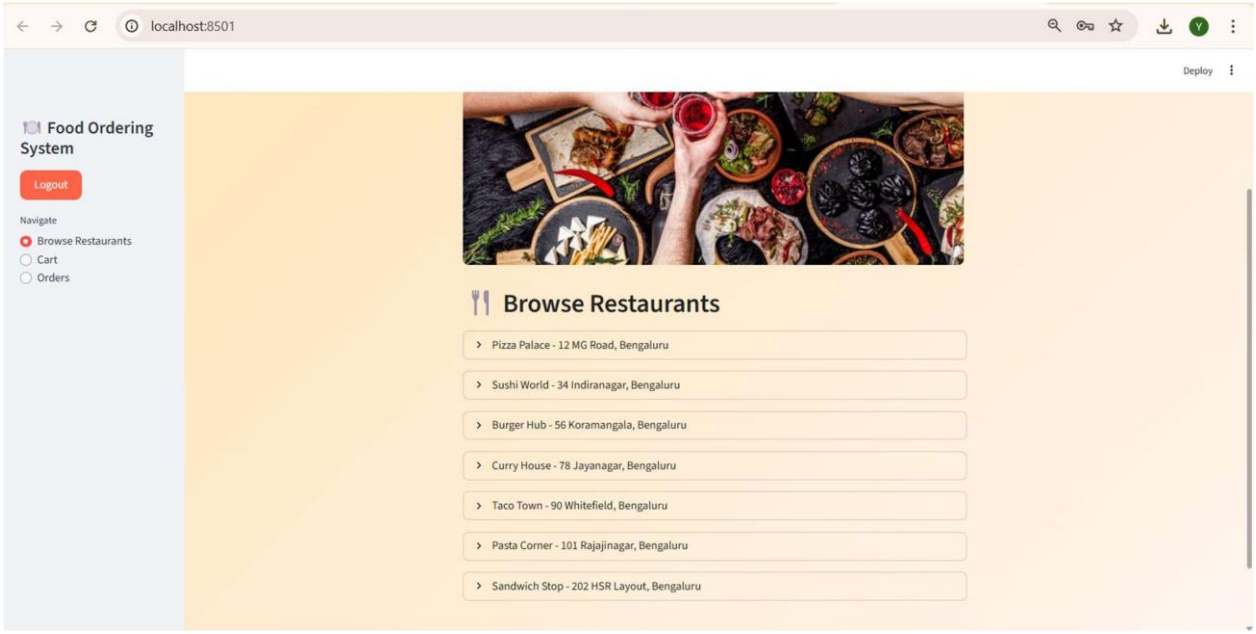
SIGNUP



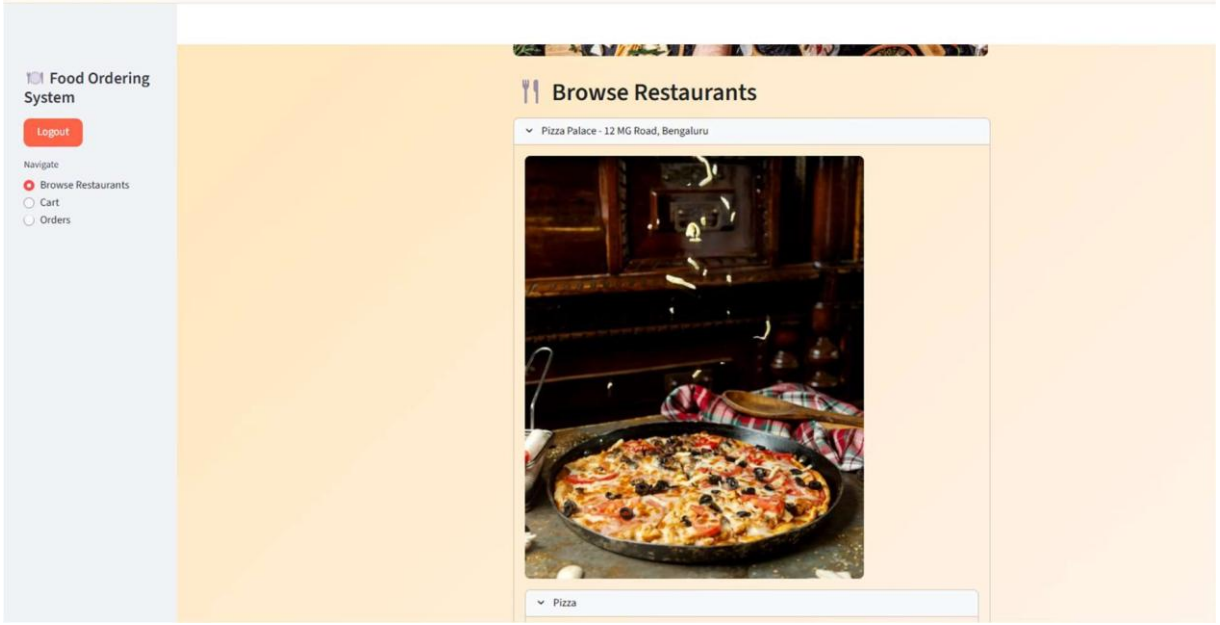
LOGIN



BROWSE RESTAURANT



ADD TO CART



Deploy

🍽 Food Ordering System

Logout

Navigate

- Browse Restaurants
- Cart
- Orders

Pizza

Pepperoni Pizza - ₹325.0 | Stock: 30 — qty_1: 1 — Add to Cart

Veggie Pizza - ₹280.0 | Stock: 38 — qty_2: 1 — Add to Cart

Cheese Pizza - ₹300.0 | Stock: 35 — qty_3: 2 — Add to Cart — Added to cart!

Margherita Pizza - ₹290.0 | Stock: 24 — qty_4: 1 — Add to Cart

Sides

Drink

🍽 Food Ordering System

Logout

Navigate

- Browse Restaurants
- Cart
- Orders

Pizza

Sides

Drink

Dessert

pizza

Reviews:

⭐ 5 — Excellent food and service! (*by Alice on 2025-11-05*)

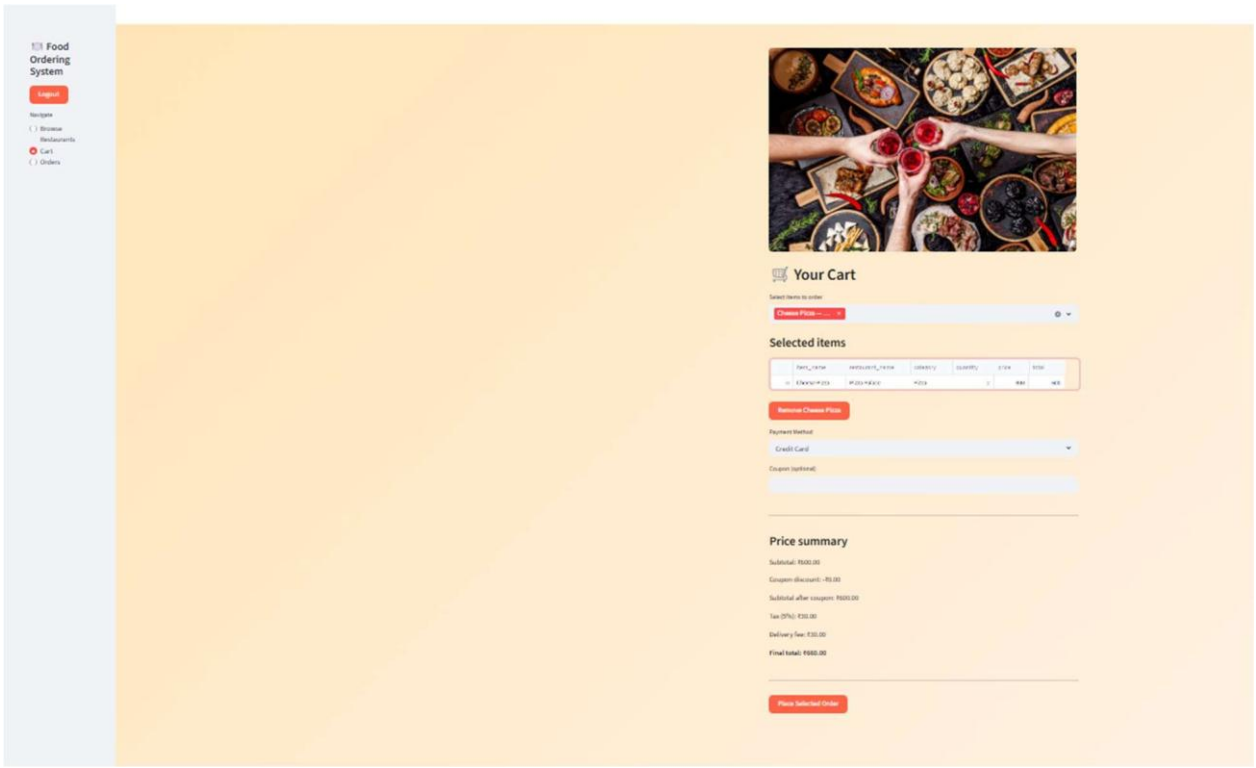
⭐ 5 — Absolutely loved the pepperoni pizza! Perfect crust. (*by Alice on 2025-11-05*)

⭐ 4 — Pizza was good but a bit cold. (*by Bob on 2025-11-05*)

⭐ 5 — Cheese Pizza was delicious. (*by Charlie on 2025-11-05*)

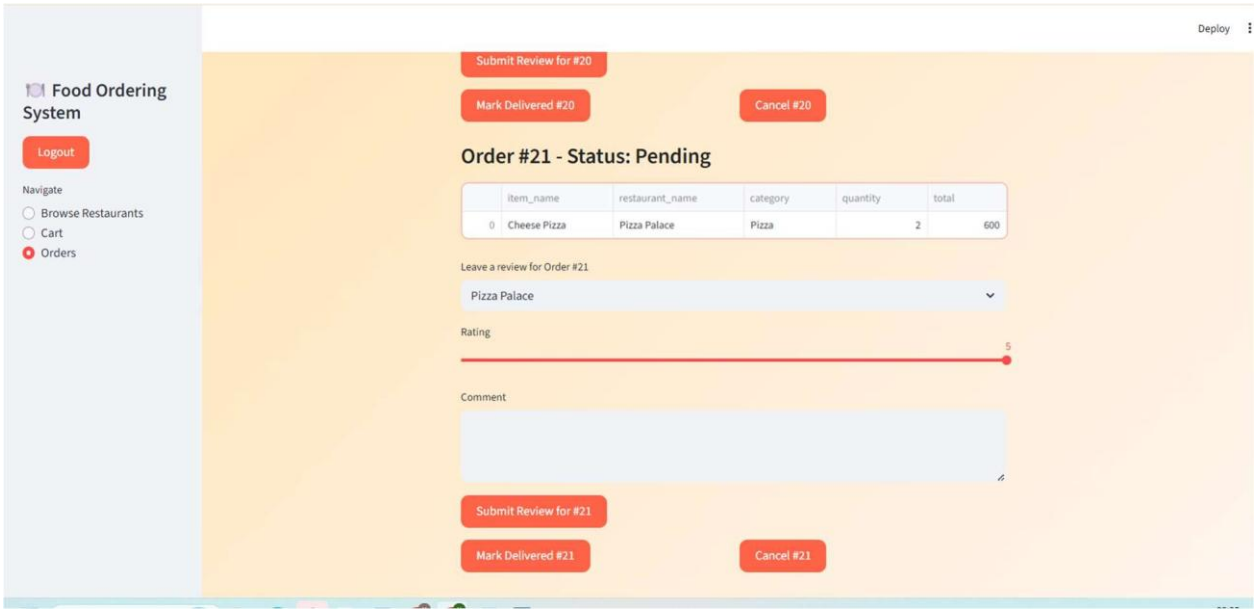
Sushi World - 34 Indiranagar, Bengaluru

REMOVE FROM CART OR PLACE ORDER



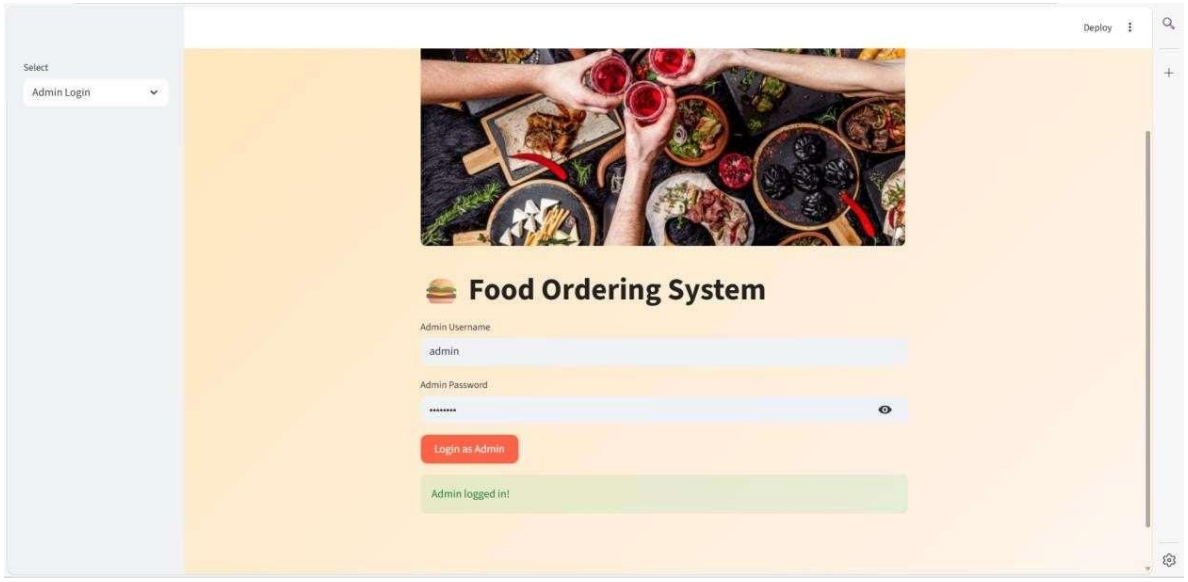
VIEW ORDER HISTORY AND VIEW ORDER STATUS :

RATE AND REVIEW RESTAURANTS AND CANCEL ORDER:

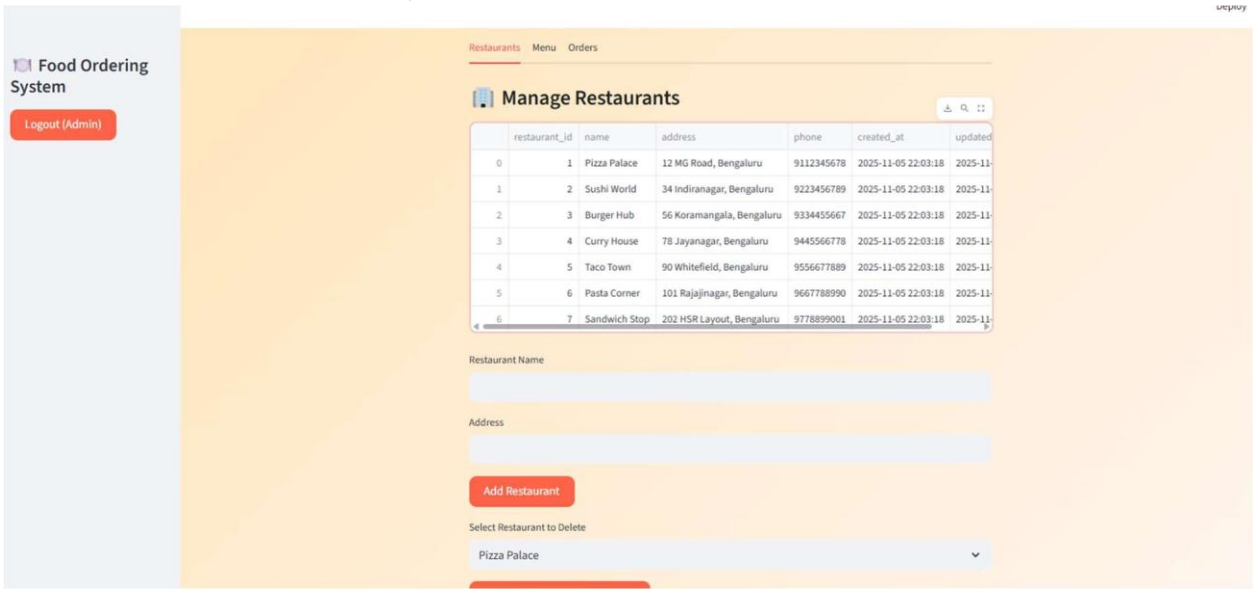


ADMIN PORTAL

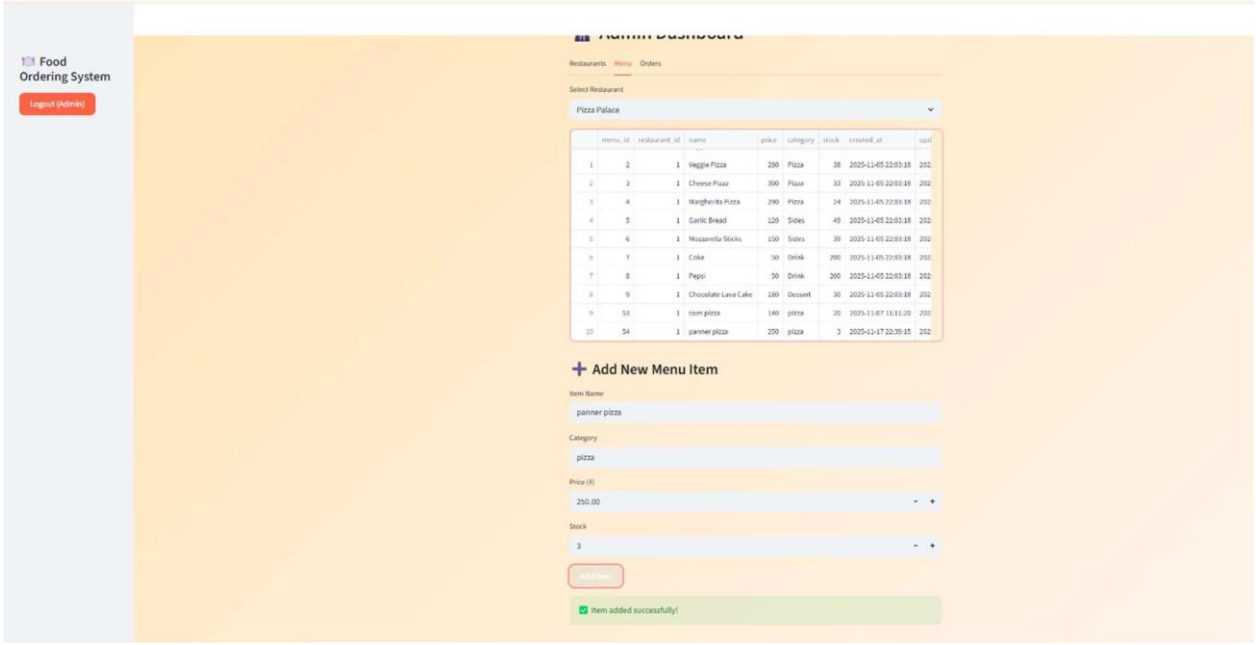
LOGIN:



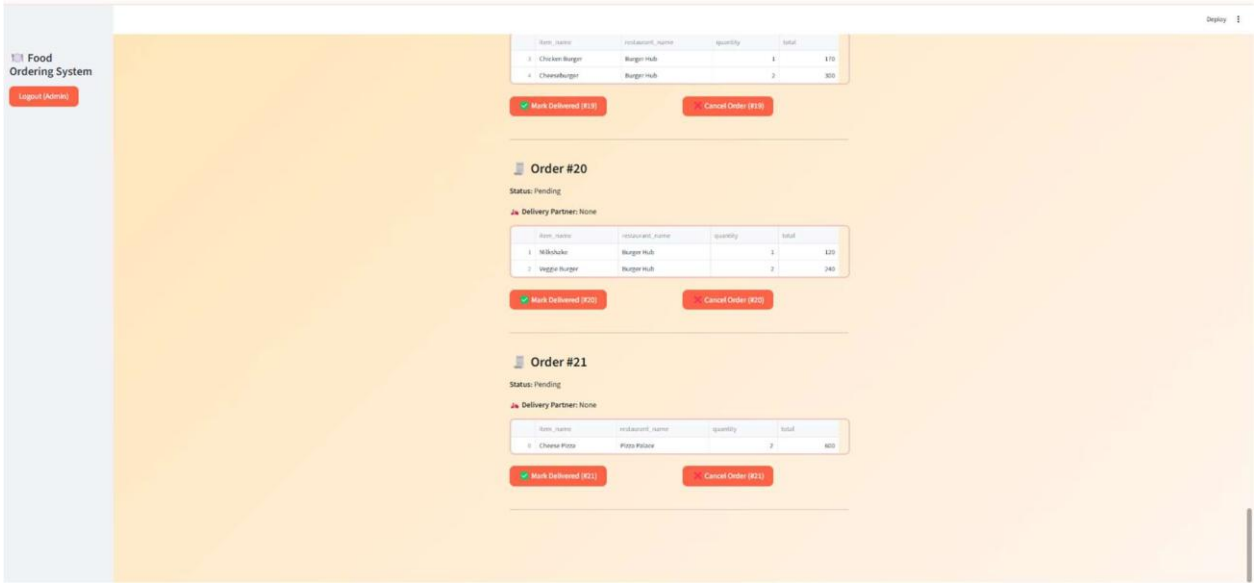
MANAGE RESTAURANTS – ADD/DELETE



ADD, DELETE, UPDATE MENU ITEMS:



ORDER MANAGEMENT



7. Triggers, Procedures/Functions, Nested query, Join, Aggregate queries

FUNCTIONS

```
DELIMITER //
CREATE FUNCTION GetOrderTotal(p_order_id INT)
RETURNS DECIMAL(10,2)
DETERMINISTIC
BEGIN
   DECLARE total DECIMAL(10,2) DEFAULT 0.00;
   SELECT IFNULL(SUM(m.price * oi.quantity), 0.00) INTO total
   FROM Order_Items oi
   JOIN Menu m ON oi.menu_id = m.menu_id
   WHERE oi.order_id = p_order_id;
   RETURN total;
END;
//
```

```
CREATE FUNCTION GetRestaurantAvgRating(p_restaurant_id INT)
RETURNS DECIMAL(3,2)
    DETERMINISTIC
    BEGIN
      DECLARE avg_rating DECIMAL(3,2);
      SELECT IFNULL(AVG(rating), 0.00) INTO avg_rating
      FROM Reviews
      WHERE restaurant_id = p_restaurant_id;
      RETURN avg_rating;
    END;
    //
    DELIMITER ;

    -- Invoking Functions
    SELECT GetOrderTotal(1) AS OrderTotal;
    SELECT GetRestaurantAvgRating(1) AS AverageRating;
```

PROCEDURE

```
    DELIMITER //
    CREATE PROCEDURE PlaceOrderFromCart(IN p_user_id INT, IN p_delivery_partner_id INT)
    BEGIN
      DECLARE v_order_id INT;
      INSERT INTO Orders (user_id, total_amount, status, delivery_partner_id)
      VALUES (p_user_id, 0.00, 'Pending', p_delivery_partner_id);

      SET v_order_id = LAST_INSERT_ID();

      INSERT INTO Order_Items (order_id, menu_id, quantity)
      SELECT v_order_id, menu_id, quantity FROM Cart WHERE user_id = p_user_id;

      UPDATE Orders
      SET total_amount = GetOrderTotal(v_order_id)
      WHERE order_id = v_order_id;

      DELETE FROM Cart WHERE user_id = p_user_id;
    END;
    //

    CREATE PROCEDURE AddReview(IN p_user_id INT, IN p_restaurant_id INT, IN p_rating INT, IN p_comment VARCHAR(500))
    BEGIN
      IF p_rating < 1 OR p_rating > 5 THEN
        SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'Rating must be between 1 and 5';
      END IF;

      INSERT INTO Reviews (user_id, restaurant_id, rating, comment)
      VALUES (p_user_id, p_restaurant_id, p_rating, p_comment);
    END;
    //
    DELIMITER ;

    -- Invoking Procedures
    CALL PlaceOrderFromCart(1,1);
    CALL AddReview(1,1,5,'Excellent food and service!');
```

TRIGGERS:

```
    DELIMITER //
    CREATE TRIGGER trg_after_insert_order_item
    AFTER INSERT ON Order_Items
    FOR EACH ROW
    BEGIN
      UPDATE Menu SET stock = stock - NEW.quantity WHERE menu_id = NEW.menu_id;
      IF (SELECT stock FROM Menu WHERE menu_id = NEW.menu_id) < 0 THEN
        SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'Insufficient stock for the menu item';
      END IF;
```

```
    UPDATE Orders SET total_amount = GetOrderTotal(NEW.order_id) WHERE order_id = NEW.order_id;
END;
//

CREATE TRIGGER trg_after_delete_order_item
AFTER DELETE ON Order_Items
FOR EACH ROW
BEGIN
    UPDATE Menu SET stock = stock + OLD.quantity WHERE menu_id = OLD.menu_id;
    UPDATE Orders SET total_amount = GetOrderTotal(OLD.order_id) WHERE order_id = OLD.order_id;
END;
//

CREATE TRIGGER trg_orders_update_status_after
AFTER UPDATE ON Orders
FOR EACH ROW
BEGIN
    IF NEW.status <> OLD.status THEN
        INSERT INTO Order_Status_History (order_id, old_status, new_status, changed_by)
        VALUES (NEW.order_id, OLD.status, NEW.status, 'system');
    END IF;
END;
//
DELIMITER ;

-- Trigger demonstration
INSERT INTO Order_Items (order_id, menu_id, quantity) VALUES (1,1,2);  -- trg_after_insert_order_item fires
DELETE FROM Order_Items WHERE order_item_id=(SELECT MAX(order_item_id) FROM Order_Items WHERE menu_id=1);  --
trg_after_delete_order_item fires
UPDATE Orders SET status='Delivered' WHERE order_id=1;  -- trg_orders_update_status_after fires
```

NESTED QUERIES:

```
DELETE FROM Order_Items
WHERE order_item_id = (
    SELECT t.order_item_id
    FROM (
        SELECT MAX(order_item_id) AS order_item_id
        FROM Order_Items
        WHERE menu_id = 1
    ) AS t
);
```

JOIN QUERIES:

```
-- Example Join (Participants & Events)
SELECT p.participant_name
FROM participant p
JOIN registration r ON p.participant_id = r.participant_id
JOIN event e ON r.event_id = e.event_id
WHERE e.price > (SELECT AVG(price) FROM event);

-- Orders with Users
SELECT o.order_id, u.name, o.total_amount
FROM Orders o
JOIN Users u ON o.user_id = u.user_id;
```

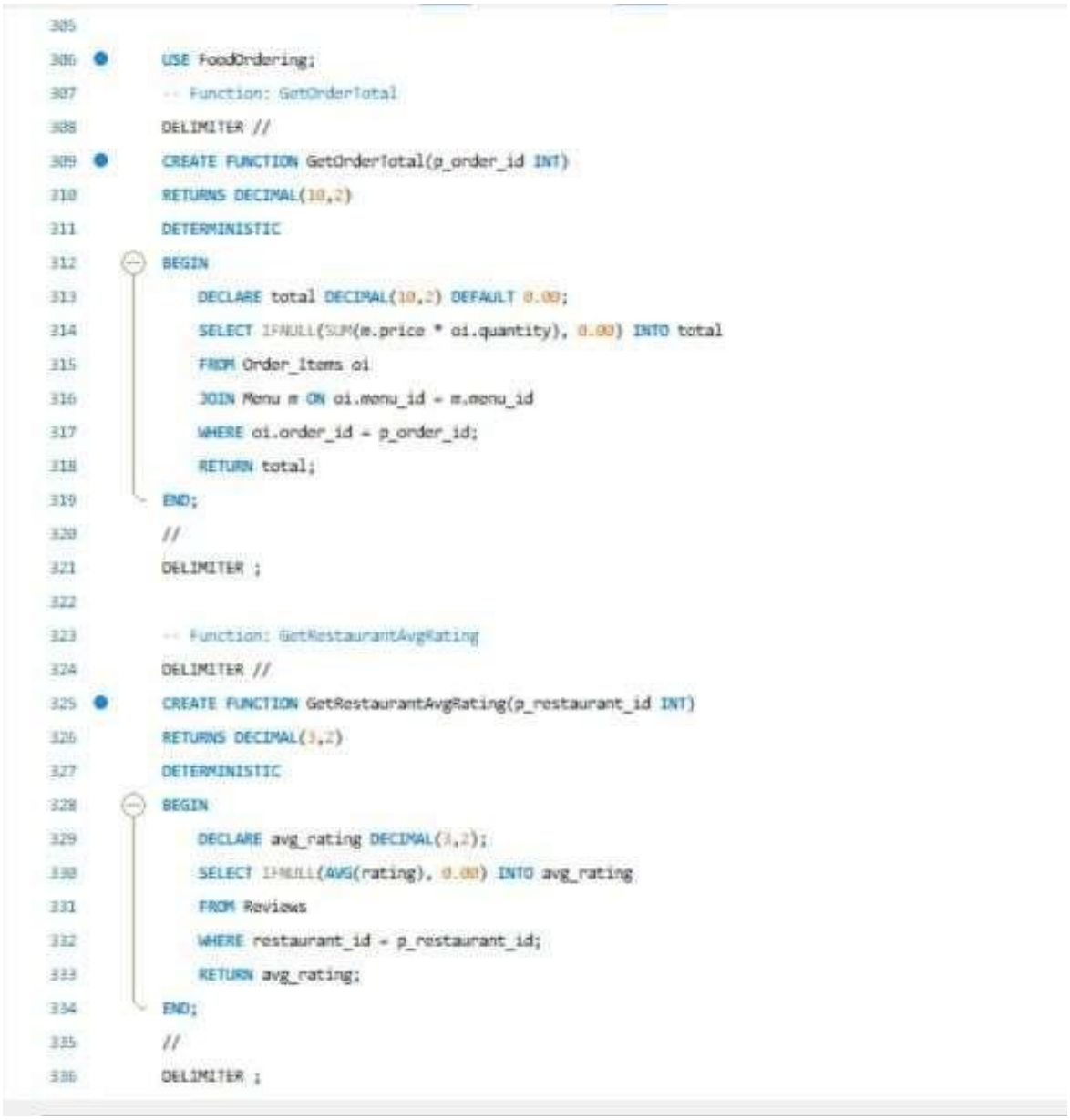
Aggregate Queries:

```
-- Average rating per restaurant
SELECT restaurant_id, AVG(rating) AS manual_avg
FROM Reviews
GROUP BY restaurant_id;
```

-- Total order amount using function
SELECT GetOrderTotal(1) AS OrderTotal;

8. Ss for triggers, procedure, functions output

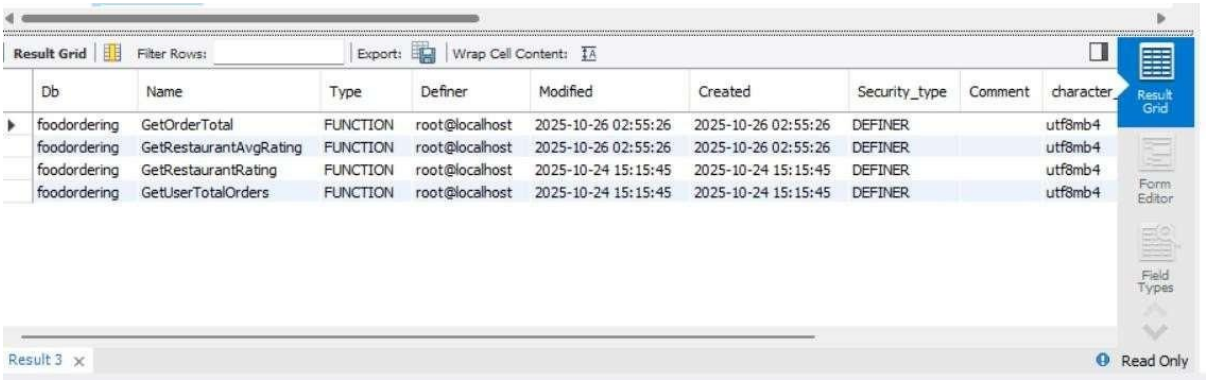
FUNTIONS:



```
305
306  USE FoodOrdering;
307  -- Function: GetOrderTotal
308  DELIMITER //
309  CREATE FUNCTION GetOrderTotal(p_order_id INT)
310  RETURNS DECIMAL(10,2)
311  DETERMINISTIC
312  BEGIN
313      DECLARE total DECIMAL(10,2) DEFAULT 0.00;
314      SELECT IFNULL(SUM(m.price * oi.quantity), 0.00) INTO total
315      FROM Order_Items oi
316      JOIN Menu m ON oi.menu_id = m.menu_id
317      WHERE oi.order_id = p_order_id;
318      RETURN total;
319  END;
320  //
321  DELIMITER ;
322
323  -- Function: GetRestaurantAvgRating
324  DELIMITER //
325  CREATE FUNCTION GetRestaurantAvgRating(p_restaurant_id INT)
326  RETURNS DECIMAL(3,2)
327  DETERMINISTIC
328  BEGIN
329      DECLARE avg_rating DECIMAL(3,2);
330      SELECT IFNULL(AVG(rating), 0.00) INTO avg_rating
331      FROM Reviews
332      WHERE restaurant_id = p_restaurant_id;
333      RETURN avg_rating;
334  END;
335  //
336  DELIMITER ;
```

```
337
338 ●    -- Functions Created
339      SHOW FUNCTION STATUS WHERE Db = 'FoodOrdering';
340
341 ●    SELECT order_id FROM Orders;
342 ●    SELECT GetOrderTotal(10) AS OrderTotal;
343
344 ●    SELECT restaurant_id, name FROM Restaurants;
345 ●    SELECT GetRestaurantAvgRating(1) AS AverageRating;
346
347 ●    SELECT restaurant_id, AVG(rating) AS manual_avg
348      FROM Reviews
349      GROUP BY restaurant_id;
350
```

BEFORE:

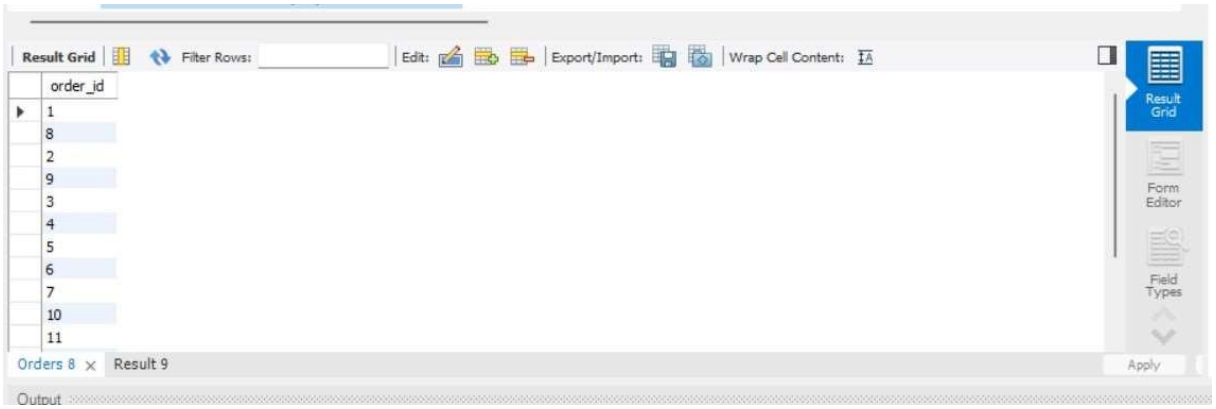


Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Db	Name	Type	Definer	Modified	Created	Security_type	Comment	character
foodordering	GetOrderTotal	FUNCTION	root@localhost	2025-10-26 02:55:26	2025-10-26 02:55:26	DEFINER		utf8mb4
foodordering	GetRestaurantAvgRating	FUNCTION	root@localhost	2025-10-26 02:55:26	2025-10-26 02:55:26	DEFINER		utf8mb4
foodordering	GetRestaurantRating	FUNCTION	root@localhost	2025-10-24 15:15:45	2025-10-24 15:15:45	DEFINER		utf8mb4
foodordering	GetUserTotalOrders	FUNCTION	root@localhost	2025-10-24 15:15:45	2025-10-24 15:15:45	DEFINER		utf8mb4

Result Grid | Form Editor | Field Types | Result 3 | Read Only

AFTER:

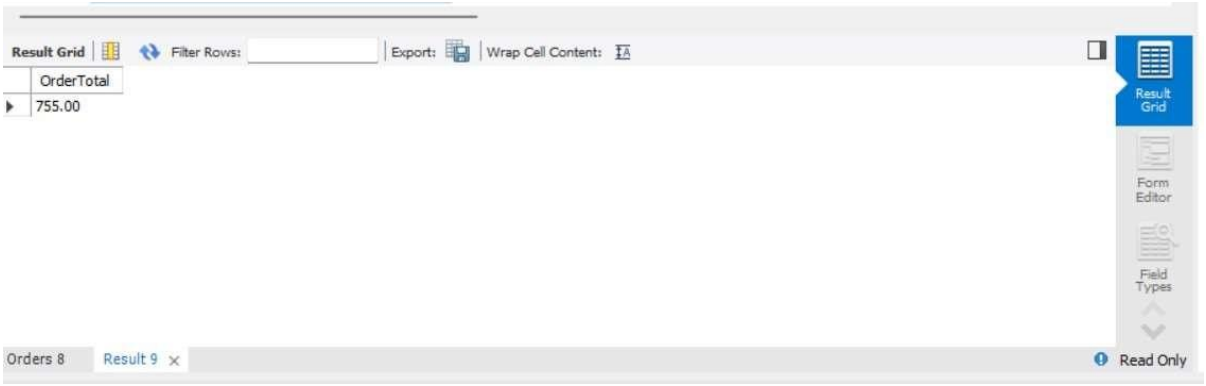


Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

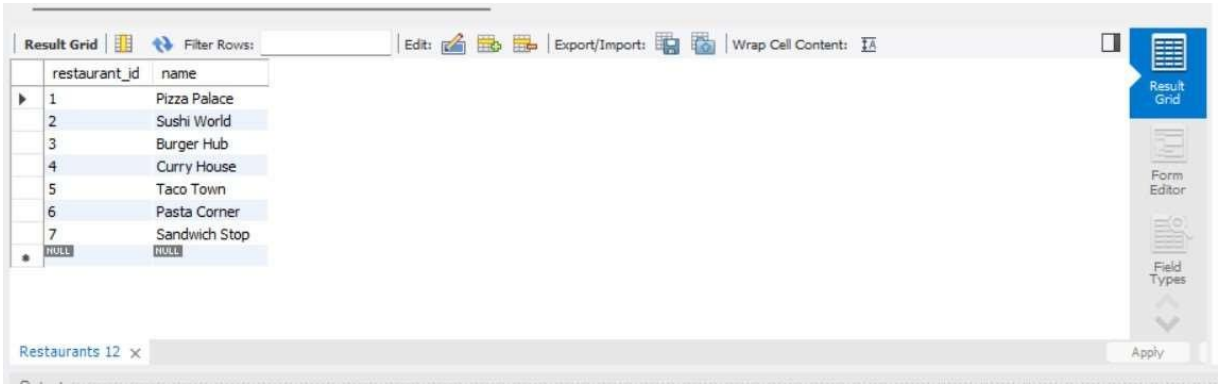
order_id
1
8
2
9
3
4
5
6
7
10
11

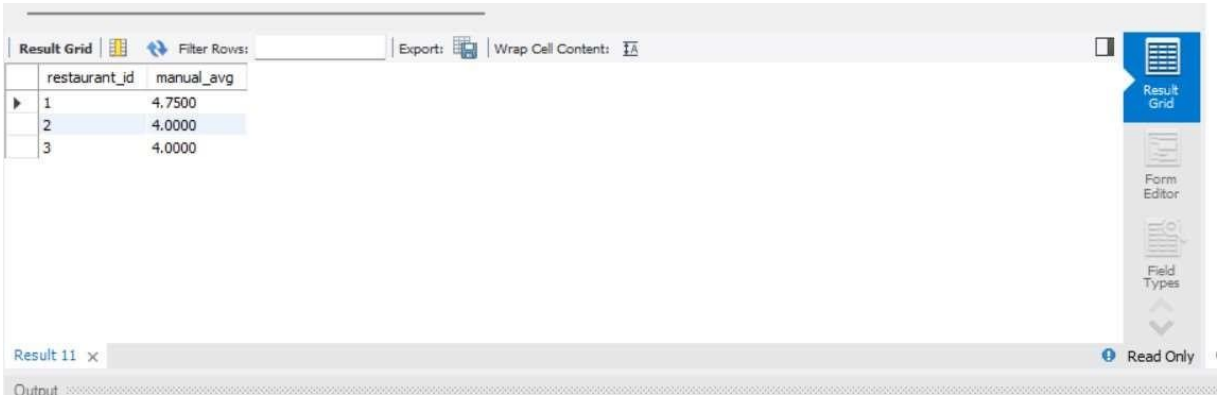
Result Grid | Form Editor | Field Types | Orders 8 | Result 9 | Apply | Output

GET ORDER TOTAL

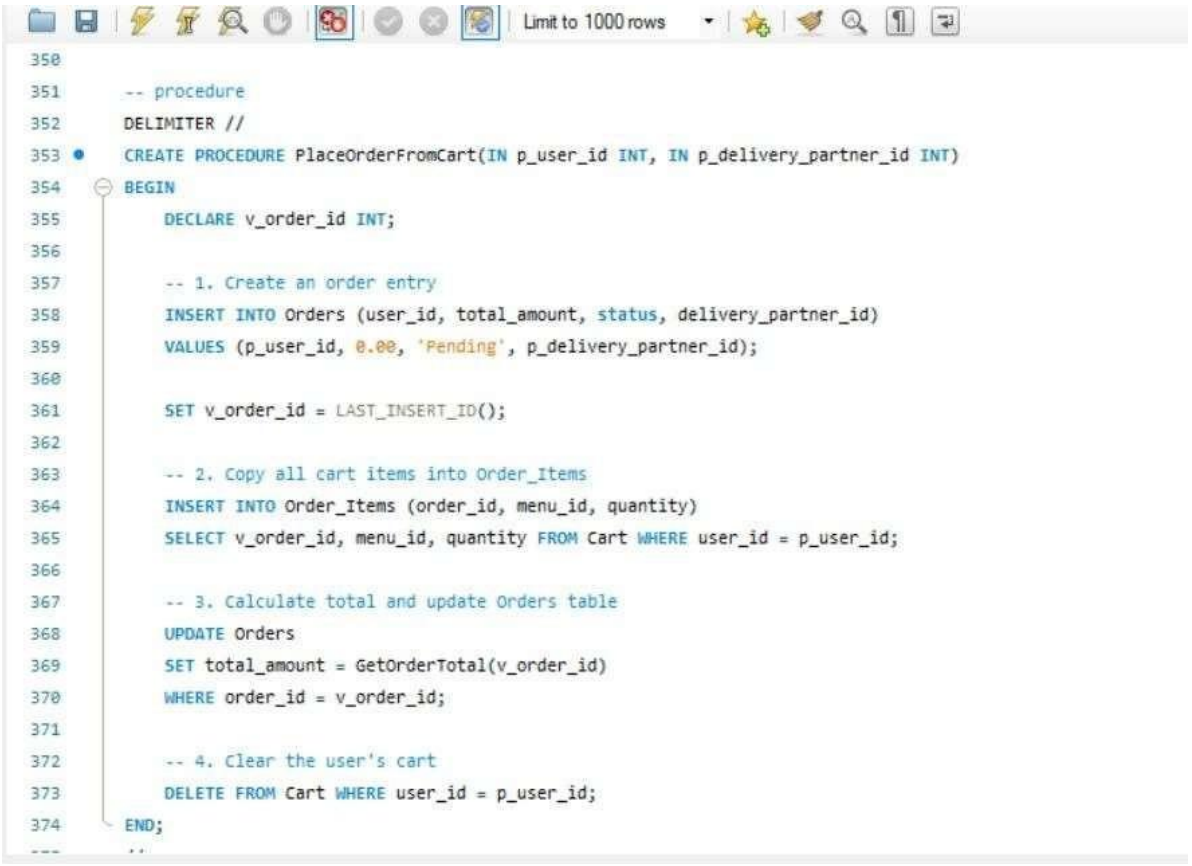


GET RESTAURENT AVG RATING





PROCEDURE


Limit to 1000 rows
350
351 -- procedure
352 DELIMITER //
353 CREATE PROCEDURE PlaceOrderFromCart(IN p_user_id INT, IN p_delivery_partner_id INT)
354 BEGIN
355 DECLARE v_order_id INT;
356
357 -- 1. Create an order entry
358 INSERT INTO Orders (user_id, total_amount, status, delivery_partner_id)
359 VALUES (p_user_id, 0.00, 'Pending', p_delivery_partner_id);
360
361 SET v_order_id = LAST_INSERT_ID();
362
363 -- 2. Copy all cart items into Order_Items
364 INSERT INTO Order_Items (order_id, menu_id, quantity)
365 SELECT v_order_id, menu_id, quantity FROM Cart WHERE user_id = p_user_id;
366
367 -- 3. Calculate total and update Orders table
368 UPDATE Orders
369 SET total_amount = GetOrderTotal(v_order_id)
370 WHERE order_id = v_order_id;
371
372 -- 4. Clear the user's cart
373 DELETE FROM Cart WHERE user_id = p_user_id;
374 END;

```
377
378     DELIMITER //
379     CREATE PROCEDURE AddReview(
380         IN p_user_id INT,
381         IN p_restaurant_id INT,
382         IN p_rating INT,
383         IN p_comment VARCHAR(500)
384     )
385     BEGIN
386         IF p_rating < 1 OR p_rating > 5 THEN
387             SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'Rating must be between 1 and 5';
388         END IF;
389
390         INSERT INTO Reviews (user_id, restaurant_id, rating, comment)
391         VALUES (p_user_id, p_restaurant_id, p_rating, p_comment);
392     END;
393     //
394     DELIMITER ;
395
396     SHOW PROCEDURE STATUS WHERE Db='FoodOrdering';
397
398     SELECT * FROM Orders ORDER BY order_id DESC LIMIT 5;
399     SELECT * FROM Cart WHERE user_id = 1;
400
401     CALL PlaceOrderFromCart(1, 1);
```

```
403     SELECT * FROM Orders ORDER BY order_id DESC LIMIT 5;
404     SELECT * FROM Cart WHERE user_id = 1;
405     SELECT * FROM Order_Items WHERE order_id = (SELECT MAX(order_id) FROM Orders WHERE user_id=1);
406
407     CALL AddReview(1, 1, 5, 'Excellent food and service!');
408
409     SELECT * FROM Reviews WHERE user_id=1 ORDER BY review_date DESC LIMIT 3;
410
```

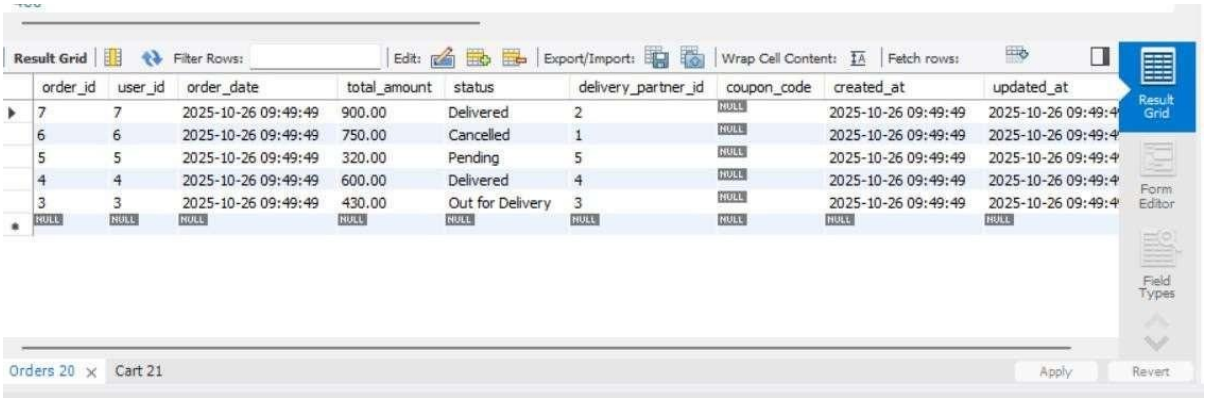
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Db	Name	Type	Definer	Modified	Created	Security_type	Comment	character_se
foodordering	AddReview	PROCEDURE	root@localhost	2025-10-26 09:49:49	2025-10-26 09:49:49	DEFINER		utf8mb4
foodordering	PlaceOrderFromCart	PROCEDURE	root@localhost	2025-10-26 09:49:49	2025-10-26 09:49:49	DEFINER		utf8mb4

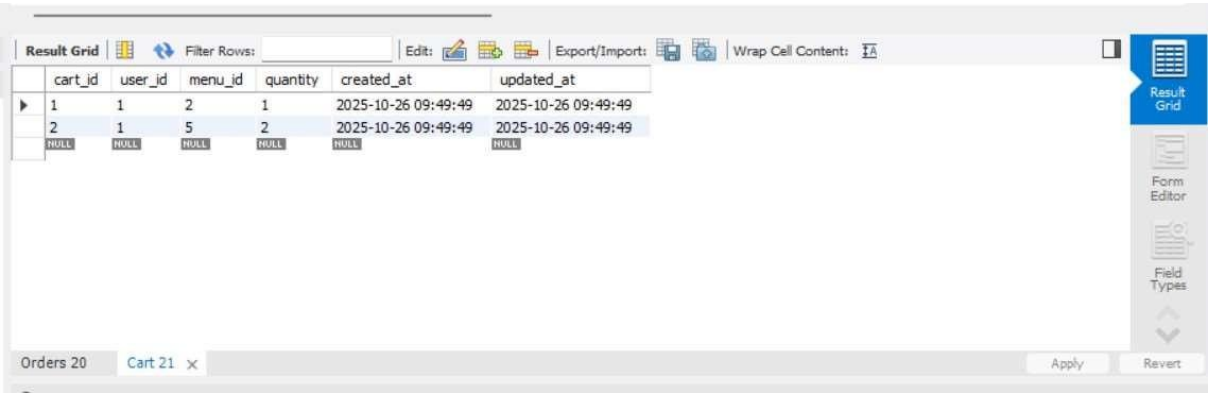
Result Grid | Form Editor | Field Types

Result 19 | Read Only

BEFORE

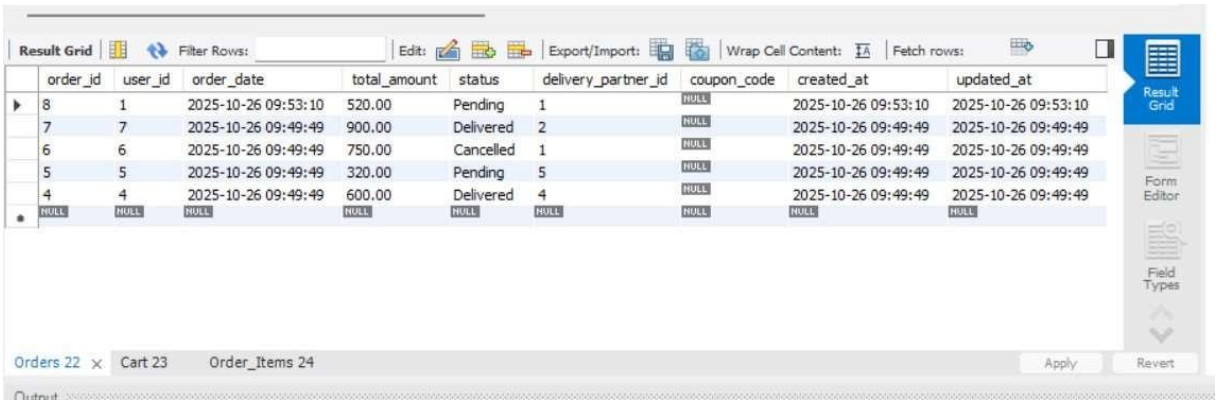


order_id	user_id	order_date	total_amount	status	delivery_partner_id	coupon_code	created_at	updated_at
7	7	2025-10-26 09:49:49	900.00	Delivered	2	NULL	2025-10-26 09:49:49	2025-10-26 09:49:49
6	6	2025-10-26 09:49:49	750.00	Cancelled	1	NULL	2025-10-26 09:49:49	2025-10-26 09:49:49
5	5	2025-10-26 09:49:49	320.00	Pending	5	NULL	2025-10-26 09:49:49	2025-10-26 09:49:49
4	4	2025-10-26 09:49:49	600.00	Delivered	4	NULL	2025-10-26 09:49:49	2025-10-26 09:49:49
3	3	2025-10-26 09:49:49	430.00	Out for Delivery	3	NULL	2025-10-26 09:49:49	2025-10-26 09:49:49

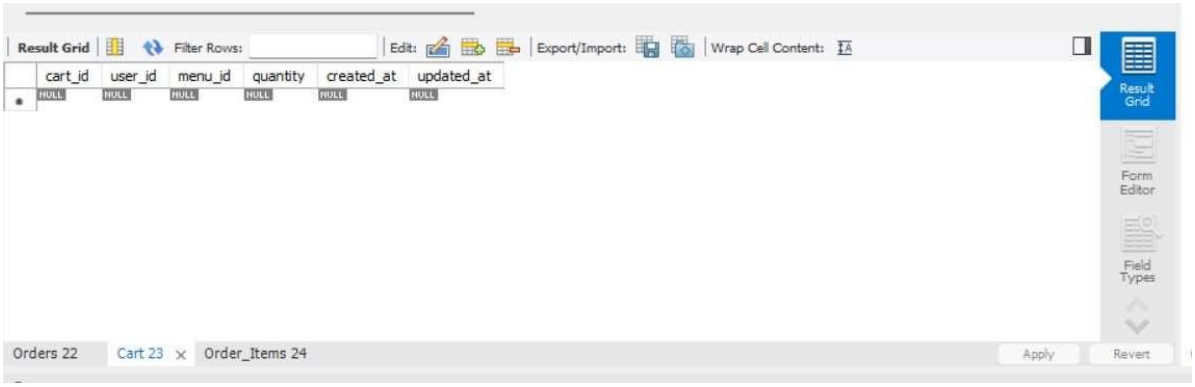


cart_id	user_id	menu_id	quantity	created_at	updated_at
1	1	2	1	2025-10-26 09:49:49	2025-10-26 09:49:49
2	1	5	2	2025-10-26 09:49:49	2025-10-26 09:49:49

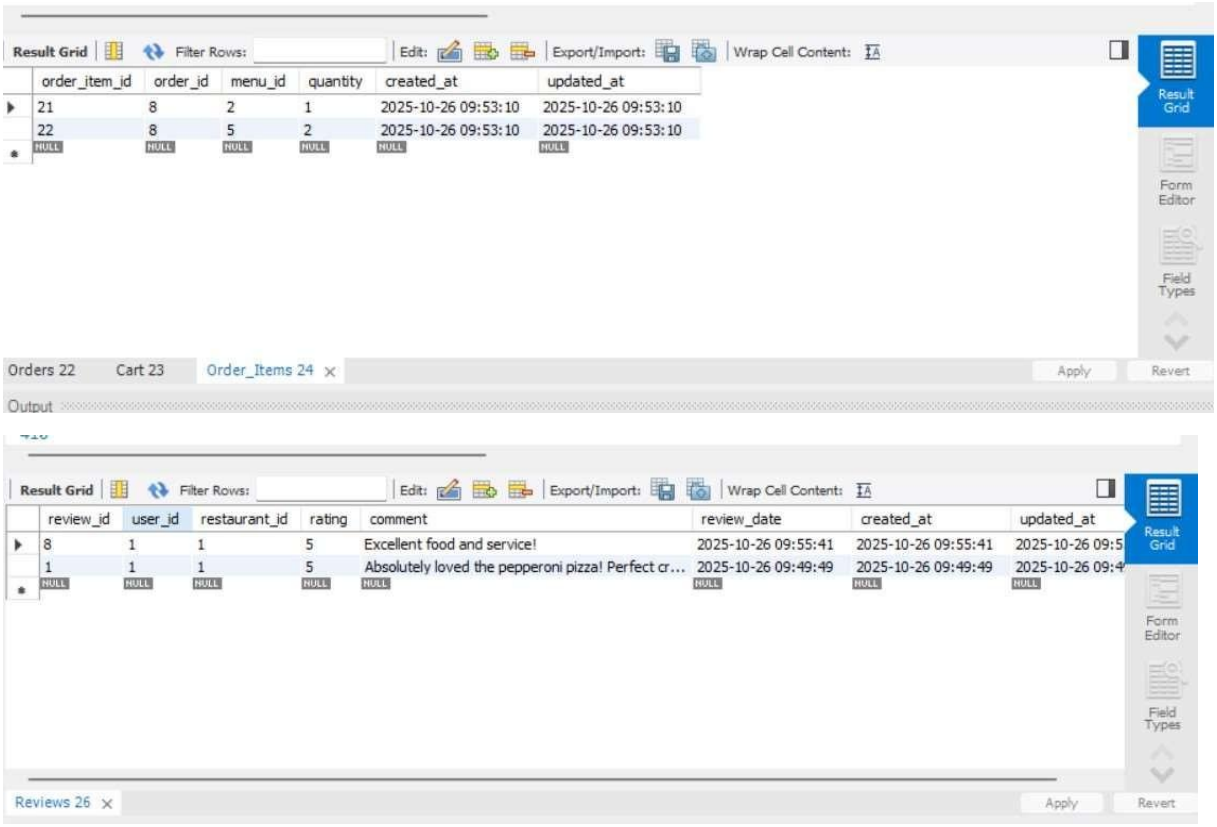
AFTER



order_id	user_id	order_date	total_amount	status	delivery_partner_id	coupon_code	created_at	updated_at
8	1	2025-10-26 09:53:10	520.00	Pending	1	NULL	2025-10-26 09:53:10	2025-10-26 09:53:10
7	7	2025-10-26 09:49:49	900.00	Delivered	2	NULL	2025-10-26 09:49:49	2025-10-26 09:49:49
6	6	2025-10-26 09:49:49	750.00	Cancelled	1	NULL	2025-10-26 09:49:49	2025-10-26 09:49:49
5	5	2025-10-26 09:49:49	320.00	Pending	5	NULL	2025-10-26 09:49:49	2025-10-26 09:49:49
4	4	2025-10-26 09:49:49	600.00	Delivered	4	NULL	2025-10-26 09:49:49	2025-10-26 09:49:49



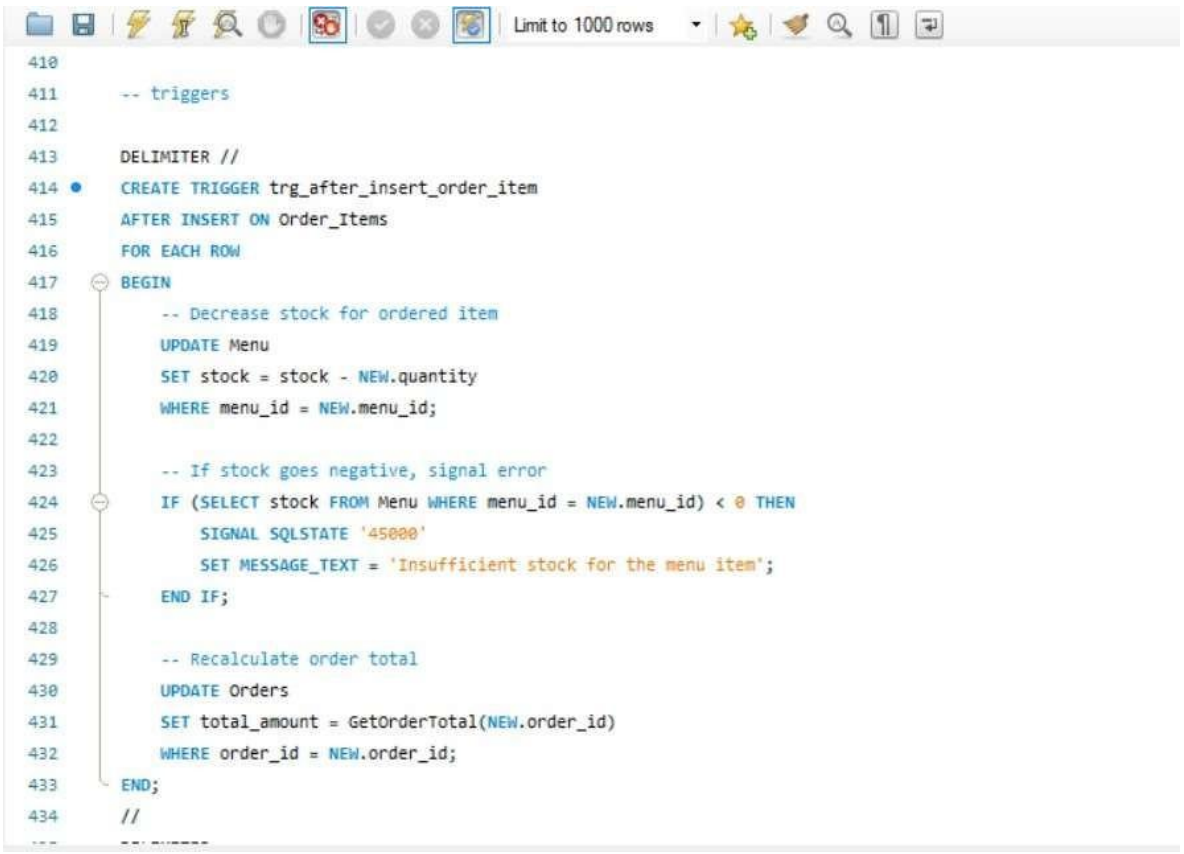
cart_id	user_id	menu_id	quantity	created_at	updated_at



order_item_id	order_id	menu_id	quantity	created_at	updated_at
21	8	2	1	2025-10-26 09:53:10	2025-10-26 09:53:10
22	8	5	2	2025-10-26 09:53:10	2025-10-26 09:53:10
NULL	NULL	NULL	NULL	NULL	NULL

review_id	user_id	restaurant_id	rating	comment	review_date	created_at	updated_at
8	1	1	5	Excellent food and service!	2025-10-26 09:55:41	2025-10-26 09:55:41	2025-10-26 09:5
1	1	1	5	Absolutely loved the pepperoni pizza! Perfect cr...	2025-10-26 09:49:49	2025-10-26 09:49:49	2025-10-26 09:4
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

TRIGGERS:

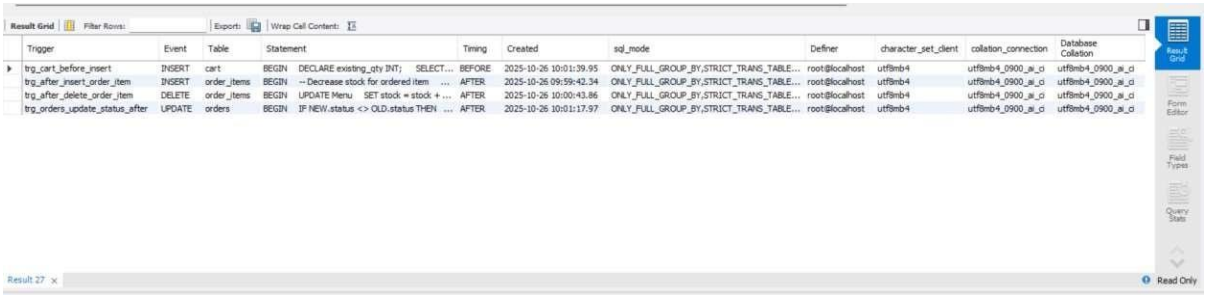


```
410
411     -- triggers
412
413     DELIMITER //
414     CREATE TRIGGER trg_after_insert_order_item
415     AFTER INSERT ON Order_Items
416     FOR EACH ROW
417     BEGIN
418         -- Decrease stock for ordered item
419         UPDATE Menu
420         SET stock = stock - NEW.quantity
421         WHERE menu_id = NEW.menu_id;
422
423         -- If stock goes negative, signal error
424         IF (SELECT stock FROM Menu WHERE menu_id = NEW.menu_id) < 0 THEN
425             SIGNAL SQLSTATE '45000'
426             SET MESSAGE_TEXT = 'Insufficient stock for the menu item';
427         END IF;
428
429         -- Recalculate order total
430         UPDATE Orders
431         SET total_amount = GetOrderTotal(NEW.order_id)
432         WHERE order_id = NEW.order_id;
433     END;
434     //
```

```
437  CREATE TRIGGER trg_after_delete_order_item
438  AFTER DELETE ON Order_Items
439  FOR EACH ROW
440  BEGIN
441      UPDATE Menu
442      SET stock = stock + OLD.quantity
443      WHERE menu_id = OLD.menu_id;
444
445      UPDATE Orders
446      SET total_amount = GetOrderTotal(OLD.order_id)
447      WHERE order_id = OLD.order_id;
448  END;
449  //
450  DELIMITER ;
451  DELIMITER //
452  CREATE TRIGGER trg_orders_update_status_after
453  AFTER UPDATE ON Orders
454  FOR EACH ROW
455  BEGIN
456      IF NEW.status <> OLD.status THEN
457          INSERT INTO Order_Status_History (order_id, old_status, new_status, changed_by)
458          VALUES (NEW.order_id, OLD.status, NEW.status, 'system');
459      END IF;
460  END;
461  //
```

```
464  SHOW TRIGGERS;
465
466  SELECT menu_id, stock FROM Menu WHERE menu_id = 1;
467  SELECT total_amount FROM Orders WHERE order_id = 1;
468
469  INSERT INTO Order_Items (order_id, menu_id, quantity) VALUES (1, 1, 2);
470
471  SELECT menu_id, stock FROM Menu WHERE menu_id = 1;
472  SELECT total_amount FROM Orders WHERE order_id = 1;
473
474  SELECT stock FROM Menu WHERE menu_id = 1;
475
476  DELETE FROM Order_Items
477  WHERE order_item_id = (
478      SELECT t.order_item_id
479      FROM (
480          SELECT MAX(order_item_id) AS order_item_id
481          FROM Order_Items
482          WHERE menu_id = 1
483      ) AS t
484  );
485  SELECT stock FROM Menu WHERE menu_id = 1;
486
487  SELECT * FROM Order_Status_History WHERE order_id = 1;
488
```

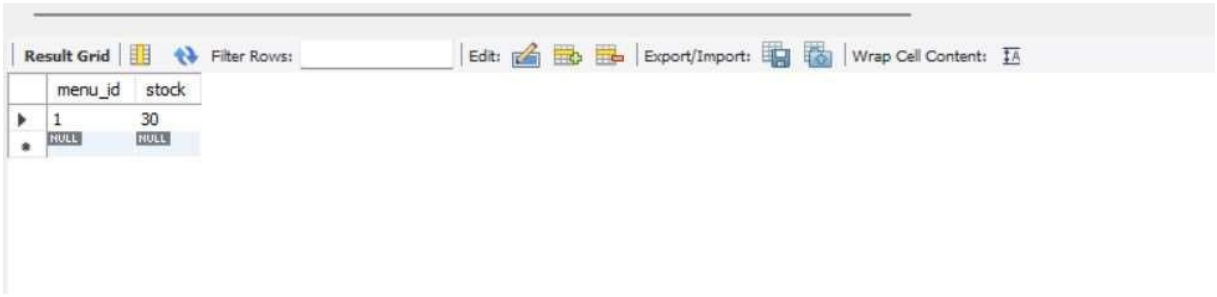
```
485 •    SELECT stock FROM Menu WHERE menu_id = 1;
486
487 •    SELECT * FROM Order_Status_History WHERE order_id = 1;
488
489
490
491 •    UPDATE Orders SET status='Delivered' WHERE order_id=1;
492
493 •    SELECT * FROM Order_Status_History WHERE order_id = 1;
494
495 •    SELECT * FROM Cart WHERE user_id=1 AND menu_id=1;
496 •    INSERT INTO Cart (user_id, menu_id, quantity) VALUES (1,1,2);
497 •    SELECT * FROM Cart WHERE user_id=1 AND menu_id=1;
```



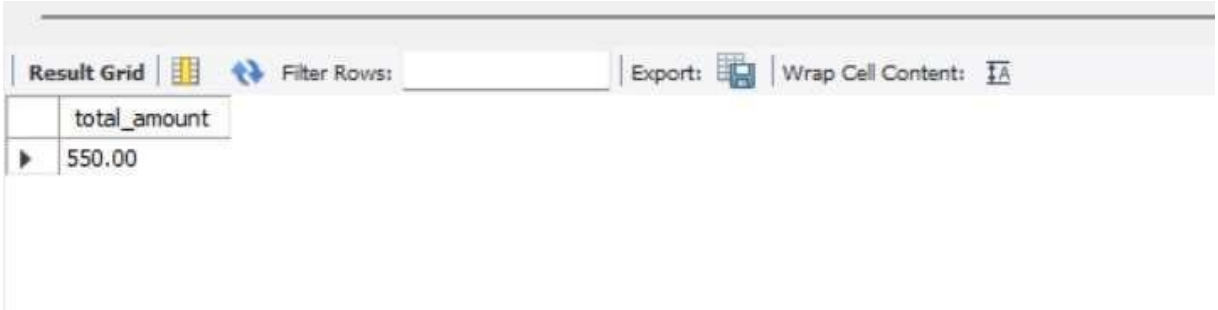
Trigger	Event	Table	Statement	Timing	Created	sql_mode	Definer	character_set_client	collation_connection	Database Collation
trg_cart_before_insert	INSERT	cart	BEGIN DECLARE existing_qty INT; SELECT...	BEFORE	2025-10-26 10:01:39.95	ONLY_FULL_GROUP_BY,STRICT_TRANS_TABLE...	root@localhost	utf8mb4	utf8mb4_0900_ai_ci	utf8mb4_0900_ai_ci
trg_after_insert_order_item	INSERT	order_items	BEGIN -- Decrease stock for ordered item ...	AFTER	2025-10-26 09:59:42.34	ONLY_FULL_GROUP_BY,STRICT_TRANS_TABLE...	root@localhost	utf8mb4	utf8mb4_0900_ai_ci	utf8mb4_0900_ai_ci
trg_after_delete_order_item	DELETE	order_items	BEGIN UPDATE Menu SET stock = stock + ...	AFTER	2025-10-26 10:00:43.86	ONLY_FULL_GROUP_BY,STRICT_TRANS_TABLE...	root@localhost	utf8mb4	utf8mb4_0900_ai_ci	utf8mb4_0900_ai_ci
trg_orders_update_status_after	UPDATE	orders	BEGIN IF NEW.status <> OLD.status THEN ...	AFTER	2025-10-26 10:01:17.97	ONLY_FULL_GROUP_BY,STRICT_TRANS_TABLE...	root@localhost	utf8mb4	utf8mb4_0900_ai_ci	utf8mb4_0900_ai_ci

BEFORE

Stock & Total Update Trigger:

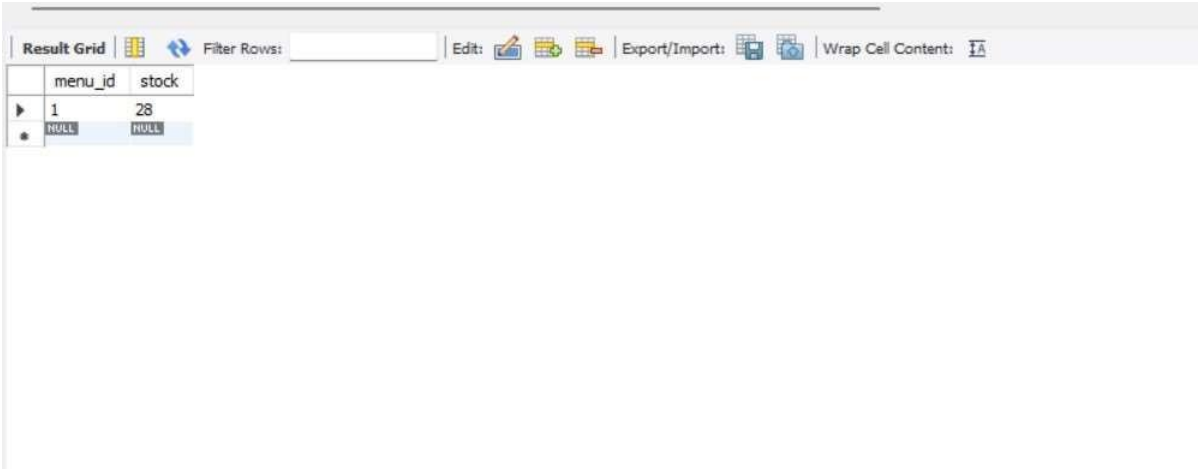


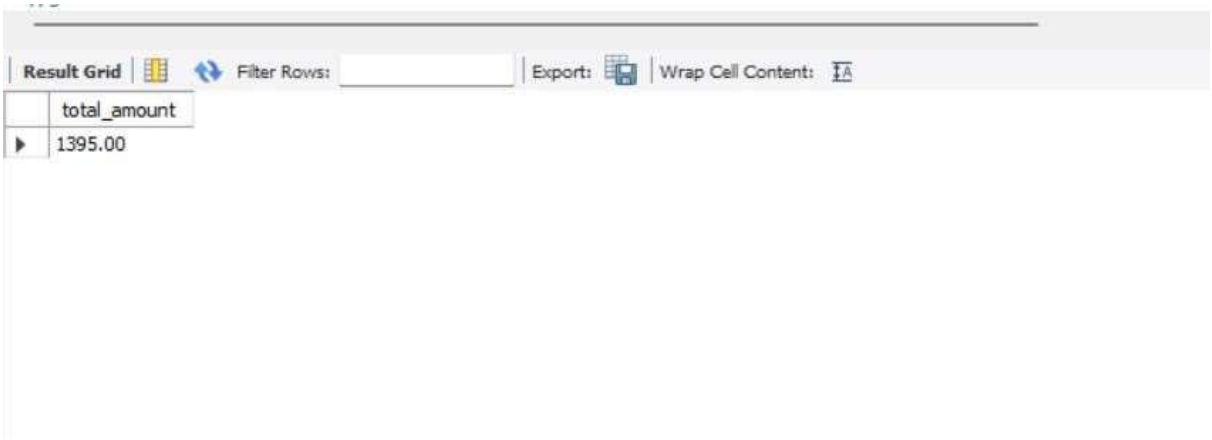
menu_id	stock
1	30
NULL	NULL



total_amount
550.00

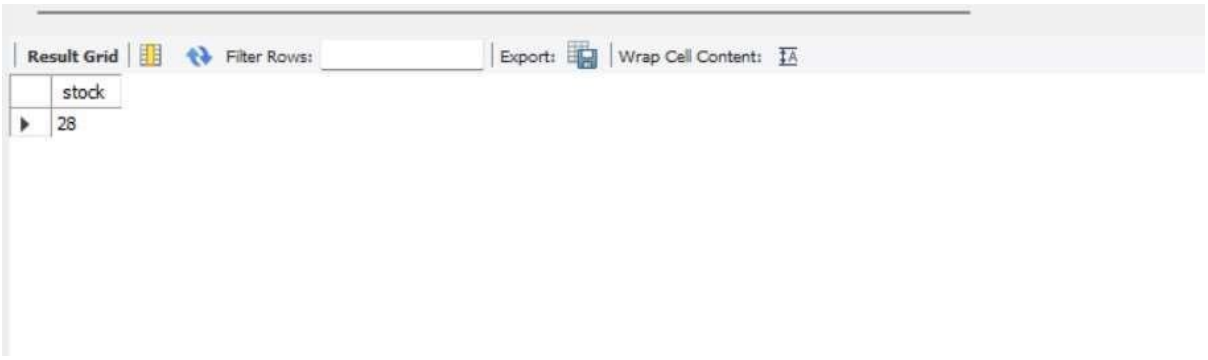
AFTER



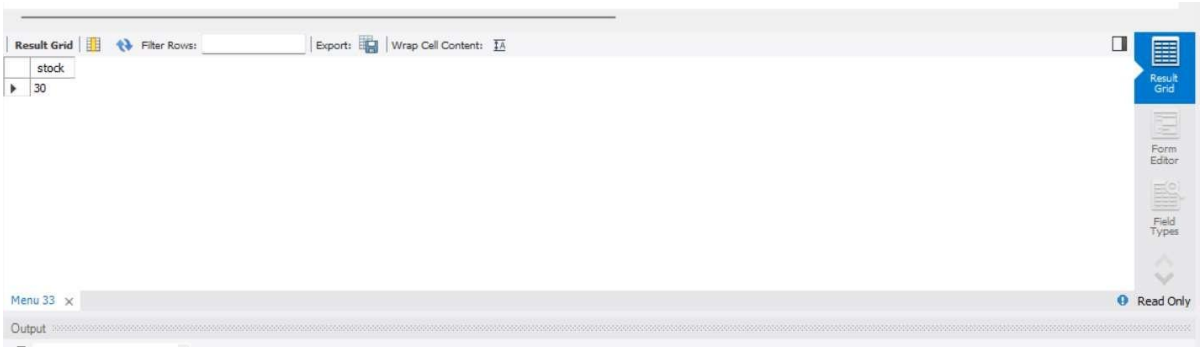


Delete Trigger

BEFORE

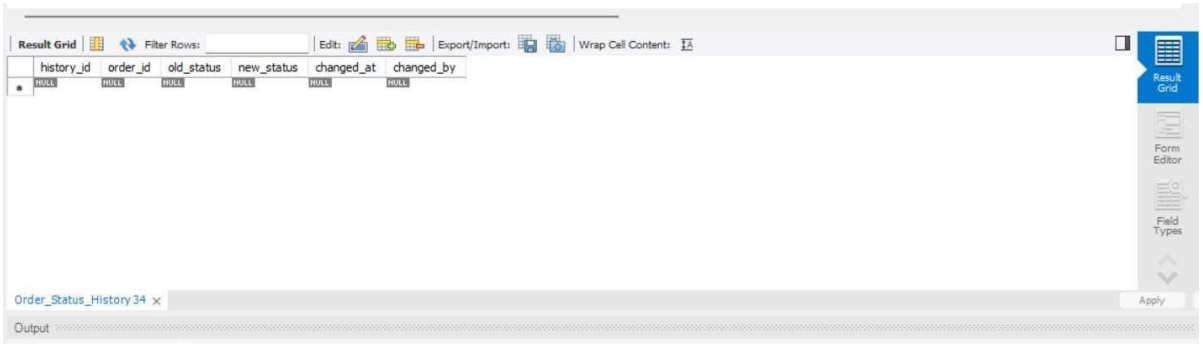


AFTER

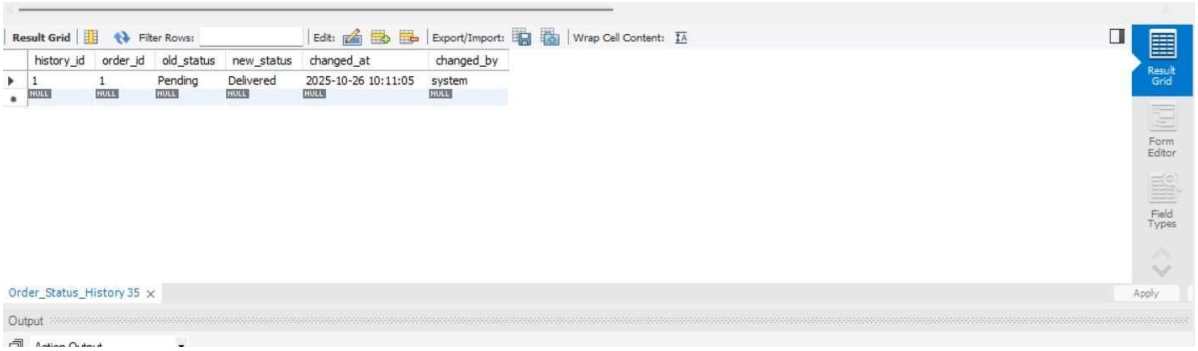


Order Status History Trigger

BEFORE:

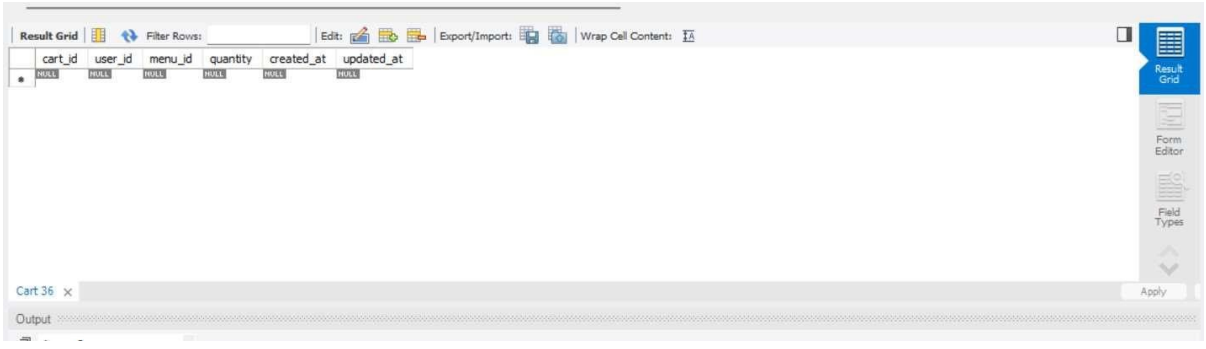


AFTER:

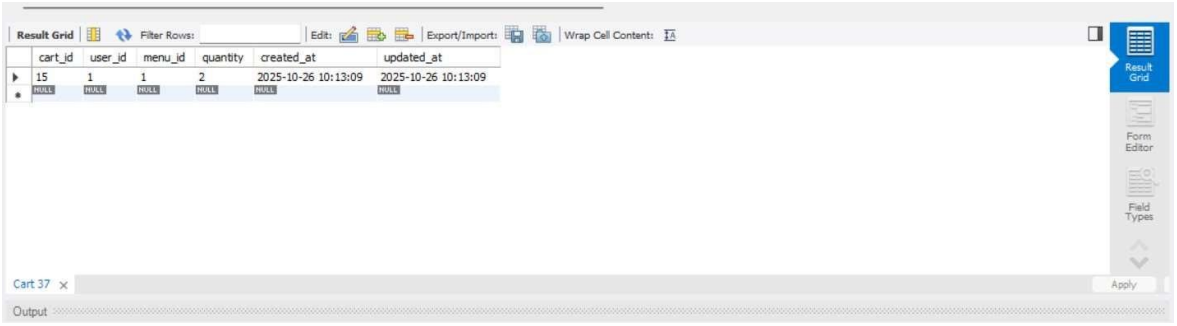


Cart Quantity Increment Trigger

BEFORE:



AFTER:



9. GitHub Link:

https://github.com/sirishivanand24184-png/FOOD-ORDERING-SYSTEM-.git