NAME :

REG NO :

SUBJECT: OBJECT ORIENTED SOFTWARE ENGINEERING

TITLE : ONLINE E-CATERING SYSTEM —ORDER CONFIRMATION VIA WHATSAPP

Activity IV – OBJECT DESIGN: UML to Code Mapping

Unit IV – Object Design

Problem Context

An Online E-Catering system should:

- Allow customers to **view available dishes** from the menu.

- Let customers **select items** they want to order.

- Provide an **order confirmation process** with **date and time**.

- Enable users to **send order details via WhatsApp** (simulated).

- Allow **admin confirmation** and customers to **submit reviews** after delivery.

1. **Customer.java**

import java.util.ArrayList;

import java.util.List;

public class Customer {

   private String customerId;

   private String name;

   private String phoneNumber;

   private List<MenuItem> selectedItems;

```java
public Customer(String customerId, String name, String phoneNumber) {

    this.customerId = customerId;

    this.name = name;

    this.phoneNumber = phoneNumber;

    this.selectedItems = new ArrayList<>();   }

  public void chooseItem(MenuItem item) {

    selectedItems.add(item);

    System.out.println(name + " selected item: " + item.getName());

  }

  public void confirmOrder(Order order) {

    System.out.println(name + " confirmed order ID: " + order.getOrderId());

  }

  public void sendReview(String review) {

    System.out.println(name + " sent review: \"" + review + "\"");

  }

  public List<MenuItem> getSelectedItems() {

    return selectedItems;

  }

public String getName() {

    return name;}

public String getPhoneNumber() {

    return phoneNumber;

  }}
```

2. MenuItem.java

```java
public class MenuItem {

    private String itemId;

    private String name;

    private String category;

    private String description;


    public MenuItem(String itemId, String name, String category, String description)
{

        this.itemId = itemId;

        this.name = name;

        this.category = category;

        this.description = description;

    }


    public String getItemId() { return itemId; }

    public String getName() { return name; }

    public String getCategory() { return category; }

    public String getDescription() { return description; }


    @Override

    public String toString() {

        return "Item: " + name + " (" + category + ") - " + description;}
```

3. Order.java

```java
import java.time.LocalDateTime;

import java.util.List;


public class Order {

    private String orderId;

    private Customer customer;

    private List<MenuItem> orderedItems;

    private LocalDateTime orderDateTime;

    private String status;


    public Order(String orderId, Customer customer, List<MenuItem> orderedItems) {

        this.orderId = orderId;

        this.customer = customer;

        this.orderedItems = orderedItems;

        this.orderDateTime = LocalDateTime.now();

        this.status = "Pending Confirmation";

    }

    public void confirmOrder(String date, String time) {

        this.status = "Confirmed for " + date + " at " + time;

        System.out.println("Order confirmed: " + orderId + " for " + date + " at " +
time);

    }
```

```java
    public String getOrderId() { return orderId; }

    public Customer getCustomer() { return customer; }

    public List<MenuItem> getOrderedItems() { return orderedItems; }

    public String getStatus() { return status; }

}
```

4. **WhatsAppService.java**

```java
public class WhatsAppService {

    public void sendOrderToAdmin(Order order) {

        System.out.println("\n Sending order details to admin via WhatsApp...");

        System.out.println("Customer: " + order.getCustomer().getName());

        System.out.println("Phone: " + order.getCustomer().getPhoneNumber());

        System.out.println("Ordered Items:");

        for (MenuItem item : order.getOrderedItems()) {

            System.out.println(" - " + item.getName());

        }

        System.out.println("Status: " + order.getStatus());

        System.out.println(" Message sent successfully (simulated).");

    }

    public void receiveConfirmation(Order order) {
```

```java
        System.out.println("\n 📩 Admin confirmed the order: " +
order.getOrderId());

    }

}
```

5. **Main.java (Driver Program)**

```java
public class Main {

  public static void main(String[] args) {


      // Step 1: Create Menu Items

      MenuItem m1 = new MenuItem("I001", "Veg Biryani", "Main Course", "Spicy
and flavorful rice dish");

      MenuItem m2 = new MenuItem("I002", "Paneer Butter Masala", "Side Dish",
"Creamy paneer curry");

      MenuItem m3 = new MenuItem("I003", "Gulab Jamun", "Dessert", "Sweet
syrupy balls");


      // Step 2: Customer views and chooses items

      Customer cust = new Customer("C001", "Soorya", "9876543210");

      cust.chooseItem(m1);

      cust.chooseItem(m3);


      // Step 3: Customer confirms order

      Order order = new Order("ORD1001", cust, cust.getSelectedItems());
```

```java
        cust.confirmOrder(order);

        // Step 4: Send order details via WhatsApp
        WhatsAppService waService = new WhatsAppService();
        waService.sendOrderToAdmin(order);

        // Step 5: Admin confirms
        order.confirmOrder("28-Oct-2025", "7:30 PM");
        waService.receiveConfirmation(order);

        // Step 6: Customer sends review
        cust.sendReview("Great food and smooth ordering process! ");
    }
}
```