Case Study 1: Java-Based Configuration Project

Title: Online Food Ordering System Configuration Type: Java-based Spring Configuration POJO Classes: Restaurant and Customer

Scenario: An online food ordering platform allows customers to order food from various restaurants. The system must manage customer information and restaurant offerings. The logic for selecting restaurants and placing orders is handled in a service class. Java-based configuration is used to wire beans explicitly Components:

- Customer.java: Holds customer details like name, contact info, and preferred cuisine .

- Restaurant.java: Holds restaurant details like name, location, and available cuisines. • FoodOrderService.java: Service that processes the food order by matching customer preferences with restaurant availability.

- AppConfig.java: A @Configuration class that defines and wires all beans manually using @Bean methods. • MainApp.java: Initializes the Spring context using AnnotationConfigApplicationContext and executes the order flow Why Java-Based Config?

- Useful when full control over bean creation is required. • Suitable for projects where configuration is centralized and separated from the POJO classes (which may not be editable)

Code:

```
//Costomer.java

package Foodorder;


public class Customer {

        private String name;

        private String contactInfo;

        private String preferredCuisine;

        public Customer(String name, String contactInfo, String preferredCuisine) {

        this.name = name;

        this.contactInfo = contactInfo;

        this.preferredCuisine = preferredCuisine;

        }

        public String getName() {

        return name;
        }
        public String getContactInfo() {
        return contactInfo;
        }
        public String getPreferredCuisine() {
                return preferredCuisine;
        }

}
//Resturant.java
package Foodorder;

public class Customer {
        private String name;
        private String contactInfo;
        private String preferredCuisine;
        public Customer(String name, String contactInfo, String preferredCuisine) {
        this.name = name;
        this.contactInfo = contactInfo;
        this.preferredCuisine = preferredCuisine;
        }
        public String getName() {
        return name;
        }
        public String getContactInfo() {
        return contactInfo;
        }
        public String getPreferredCuisine() {
                return preferredCuisine;
        }
}
//FoodOrderService
package Foodorder;

public class FoodOrderService {
        private Customer customer;
        private Restaurant restaurant;
public FoodOrderService(Customer customer, Restaurant restaurant) {
                this.customer = customer;
                this.restaurant = restaurant;
        }
public void placeOrder() {
        if (restaurant.getAvailableCuisines().contains(customer.getPreferredCuisine())) {
        System.out.println("Order placed successfully!");
        System.out.println("Customer: " + customer.getName());
        System.out.println("Restaurant: " + restaurant.getName());
        System.out.println("Cuisine: " + customer.getPreferredCuisine());
        }
        else {
        System.out.println("Sorry, your preferred cuisine is not available at this restaurant.");
        }
}

}
//AppConfig
package Foodorder;

public class FoodOrderService {
        private Customer customer;
        private Restaurant restaurant;
public FoodOrderService(Customer customer, Restaurant restaurant) {
                this.customer = customer;
                this.restaurant = restaurant;
        }
public void placeOrder() {
        if (restaurant.getAvailableCuisines().contains(customer.getPreferredCuisine())) {
        System.out.println("Order placed successfully!");
        System.out.println("Customer: " + customer.getName());
        System.out.println("Restaurant: " + restaurant.getName());
        System.out.println("Cuisine: " + customer.getPreferredCuisine());
        }
        else {
        System.out.println("Sorry, your preferred cuisine is not available at this restaurant.");
        }
}

}
//Mainapp.java
package Foodorder;

public class FoodOrderService {
        private Customer customer;
        private Restaurant restaurant;
public FoodOrderService(Customer customer, Restaurant restaurant) {
                this.customer = customer;
                this.restaurant = restaurant;
        }
```

```
public void placeOrder() {
        if (restaurant.getAvailableCuisines().contains(customer.getPreferredCuisine())) {
        System.out.println("Order placed successfully!");
        System.out.println("Customer: " + customer.getName());
        System.out.println("Restaurant: " + restaurant.getName());
        System.out.println("Cuisine: " + customer.getPreferredCuisine());
        }
        else {
        System.out.println("Sorry, your preferred cuisine is not available at this restaurant.");
        }
}

}
```

Output:

```
Order placed successfully!
Customer: Nanditha
Restaurant: Spicy Grand
Cuisine: South Indian
```