Name: Neyaz Reyaz Mansoori

Roll no.: 242010032

```
!apt-get install openjdk-11-jdk -y
```

⇥ Show hidden output

```
%%writefile PaymentGatewayBridge.java

public class PaymentGatewayBridge {

    // Implementor
    interface PaymentProcessor {
        void processPayment(String method, double amount);
    }

    // Concrete Implementors
    static class StripeProcessor implements PaymentProcessor {
        public void processPayment(String method, double amount) {
            System.out.println("Processing " + method + " payment of $" + amount + " via Stripe.");
        }
    }

    static class SquareProcessor implements PaymentProcessor {
        public void processPayment(String method, double amount) {
            System.out.println("Processing " + method + " payment of $" + amount + " via Square.");
        }
    }

    static class PayPalAPIProcessor implements PaymentProcessor {
        public void processPayment(String method, double amount) {
            System.out.println("Processing " + method + " payment of $" + amount + " via PayPal API.");
        }
    }

    // Abstraction
    static abstract class PaymentMethod {
        protected PaymentProcessor processor;

        public PaymentMethod(PaymentProcessor processor) {
            this.processor = processor;
        }

        public abstract void pay(double amount);
    }

    // Refined Abstractions
    static class CreditCardPayment extends PaymentMethod {
        public CreditCardPayment(PaymentProcessor processor) {
            super(processor);
        }

        public void pay(double amount) {
            processor.processPayment("Credit Card", amount);
        }
    }

    static class PayPalPayment extends PaymentMethod {
        public PayPalPayment(PaymentProcessor processor) {
            super(processor);
        }

        public void pay(double amount) {
            processor.processPayment("PayPal", amount);
        }
    }

    static class CryptoPayment extends PaymentMethod {
        public CryptoPayment(PaymentProcessor processor) {
            super(processor);
        }

        public void pay(double amount) {
            processor.processPayment("Crypto", amount);
```

```
            }
        }

        // Demo
        public static void main(String[] args) {
            PaymentMethod payment1 = new CreditCardPayment(new StripeProcessor());
            payment1.pay(150.00);

            PaymentMethod payment2 = new PayPalPayment(new SquareProcessor());
            payment2.pay(220.50);

            PaymentMethod payment3 = new CryptoPayment(new PayPalAPIProcessor());
            payment3.pay(350.75);
        }
    }
```

⇥ Writing PaymentGatewayBridge.java

```
!javac PaymentGatewayBridge.java
!java PaymentGatewayBridge
```

⇥ Processing Credit Card payment of $150.0 via Stripe.
    Processing PayPal payment of $220.5 via Square.
    Processing Crypto payment of $350.75 via PayPal API.