**Exercise 4: Implementing the Adapter Pattern**

**Code:**

**PaymentProcessor.java**

public interface PaymentProcessor {

void processPayment(double amount);

}

**PayPalGateway.java**

public class PayPalGateway {

public void sendPayment(double amount) {

System.out.println("Processing payment of $" + amount + " through PayPal.");

}

}

**StripeGateway.java**

public class StripeGateway {

public void makePayment(double amount) {

System.out.println("Processing payment of $" + amount + " through Stripe.");

}

}

**PayPalAdapter.java**

public class PayPalAdapter implements PaymentProcessor {

private PayPalGateway payPalGateway;

public PayPalAdapter(PayPalGateway payPalGateway) {

this.payPalGateway = payPalGateway;

}

@Override

public void processPayment(double amount) {

payPalGateway.sendPayment(amount);

}

}

**StripeAdapter.java**

public class StripeAdapter implements PaymentProcessor {

private StripeGateway stripeGateway;

public StripeAdapter(StripeGateway stripeGateway) {

this.stripeGateway = stripeGateway;

}

@Override

public void processPayment(double amount) {

stripeGateway.makePayment(amount);

}

}

**AdapterPatternExample.java**

public class AdapterPatternExample {

public static void main(String[] args) {

PaymentProcessor payPalProcessor = new PayPalAdapter(new PayPalGateway());

PaymentProcessor stripeProcessor = new StripeAdapter(new StripeGateway());

payPalProcessor.processPayment(250.00);

stripeProcessor.processPayment(350.00);

}

}

**Output:**

