**Exercise 4: Implementing the Adapter Pattern**

public class Main{

interface PaymentProcessor {

void processPayment(double amount);

}

static class PayPalGateway {

public void sendPayment(double amountInUSD) {

System.out.println("Processing payment of $" + amountInUSD + " via PayPal.");

}

}

static class StripeGateway {

public void makePayment(double amountInDollars) {

System.out.println("Processing payment of $" + amountInDollars + " via Stripe.");

}

}

static class RazorpayGateway {

public void doTransaction(double amountInINR) {

System.out.println("Processing payment of ₹" + amountInINR + " via Razorpay.");

}

}

static class PayPalAdapter implements PaymentProcessor {

private PayPalGateway payPal;

public PayPalAdapter(PayPalGateway payPal) {

this.payPal = payPal;

}

@Override

public void processPayment(double amount) {

payPal.sendPayment(amount);

}

}

static class StripeAdapter implements PaymentProcessor {

private StripeGateway stripe;

public StripeAdapter(StripeGateway stripe) {

this.stripe = stripe;

}

@Override

public void processPayment(double amount) {

stripe.makePayment(amount);

}

}

static class RazorpayAdapter implements PaymentProcessor {

private RazorpayGateway razorpay;

public RazorpayAdapter(RazorpayGateway razorpay) {

this.razorpay = razorpay;

}

@Override

public void processPayment(double amount) {

razorpay.doTransaction(amount);

}

}

public static void main(String[] args) {

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

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

PaymentProcessor razorpayProcessor = new RazorpayAdapter(new RazorpayGateway());

paypalProcessor.processPayment(100.00);

stripeProcessor.processPayment(200.00);

razorpayProcessor.processPayment(5000.00); // assuming INR

}

}

