**Exercise 4: Implementing the Adapter Pattern**

**PaymentProcessor.java**

public interface PaymentProcessor {

void processPayment(double amount);

}

**PayPaLGateway.java**

public class PayPaLGateway {

public void sendPayment(double amountInDollars) {

System.***out***.println("Payment of $" + amountInDollars + " processed via PayPal.");

}

}

**StripeGateway.java**

public class StripeGateway {

public void makePayment(double amountInRupees) {

System.***out***.println("Payment of ₹" + amountInRupees + " processed via Stripe.");

}

}

**PayPaLAdapter.java**

public class PayPaLAdapter implements PaymentProcessor {

private PayPaLGateway payPalGateway;

public PayPaLAdapter(PayPaLGateway gateway) {

this.payPalGateway = gateway;

}

*@Override*

public void processPayment(double amount) {

payPalGateway.sendPayment(amount); // assuming amount in dollars

}

}

**StripeAdapter.java**

public class StripeAdapter implements PaymentProcessor {

private StripeGateway stripeGateway;

public StripeAdapter(StripeGateway gateway) {

this.stripeGateway = gateway;

}

*@Override*

public void processPayment(double amount) {

double rupees = amount \* 83; // Convert USD to INR (example rate)

stripeGateway.makePayment(rupees);

}

}

**Main.java**

public class Main {

public static void main(String[] args) {

// Use PayPal via Adapter

PayPaLGateway payPal = new PayPaLGateway();

PaymentProcessor payPalProcessor = new PayPaLAdapter(payPal);

payPalProcessor.processPayment(100.0);

System.***out***.println("-------------------------------");

// Use Stripe via Adapter

StripeGateway stripe = new StripeGateway();

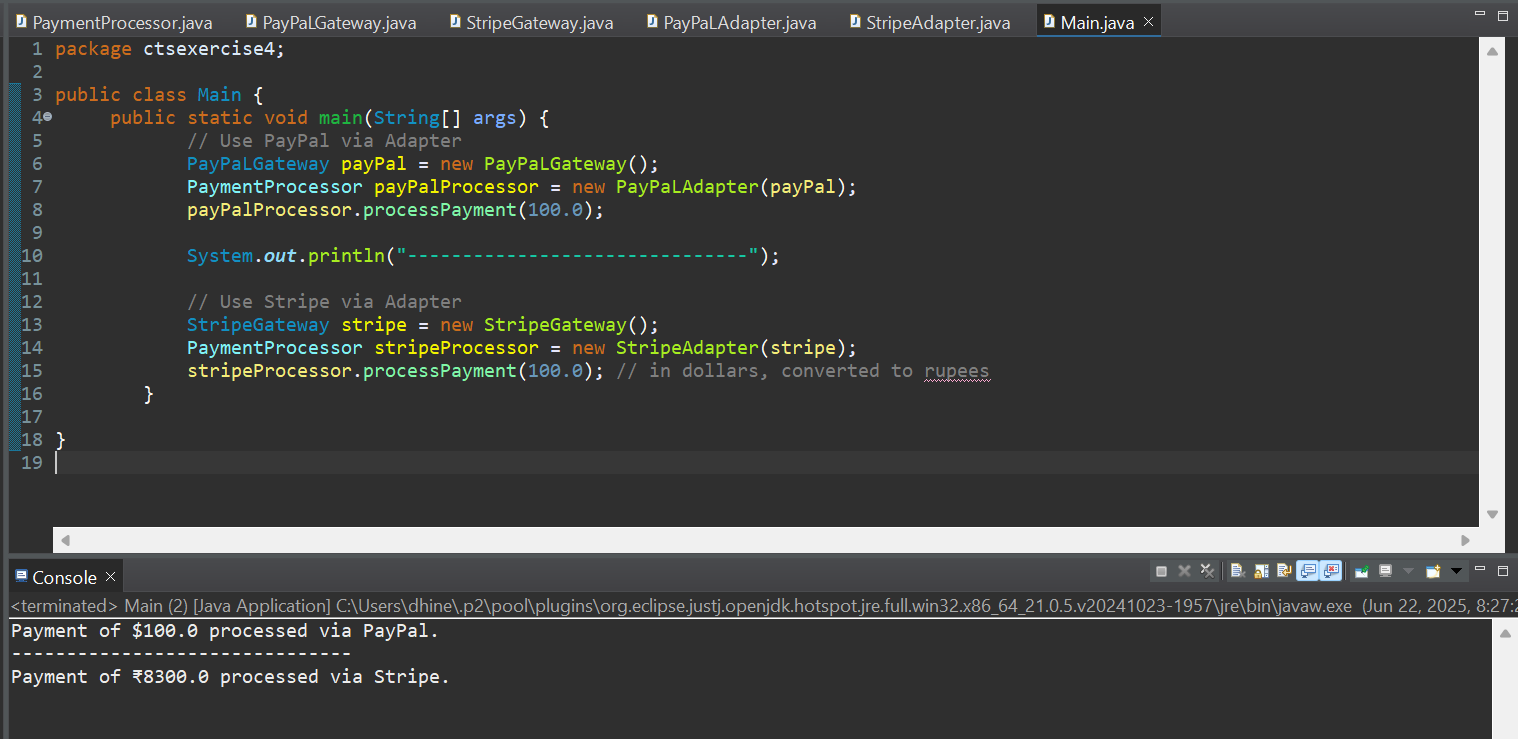
PaymentProcessor stripeProcessor = new StripeAdapter(stripe);

stripeProcessor.processPayment(100.0); // in dollars, converted to rupees

}

}

**Output:**

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