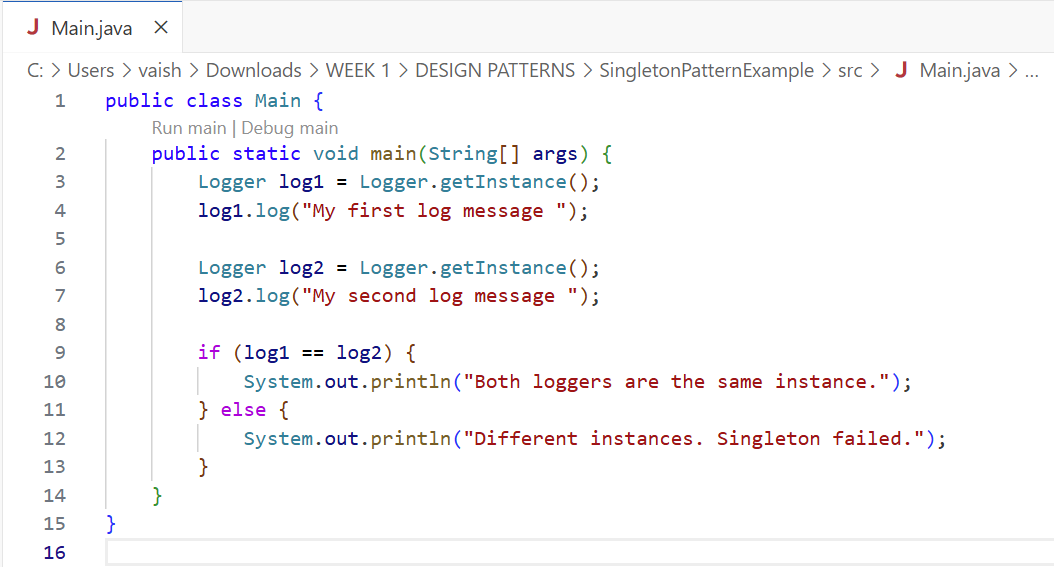
**DESIGN PATTERNS AND PRINCIPLES**

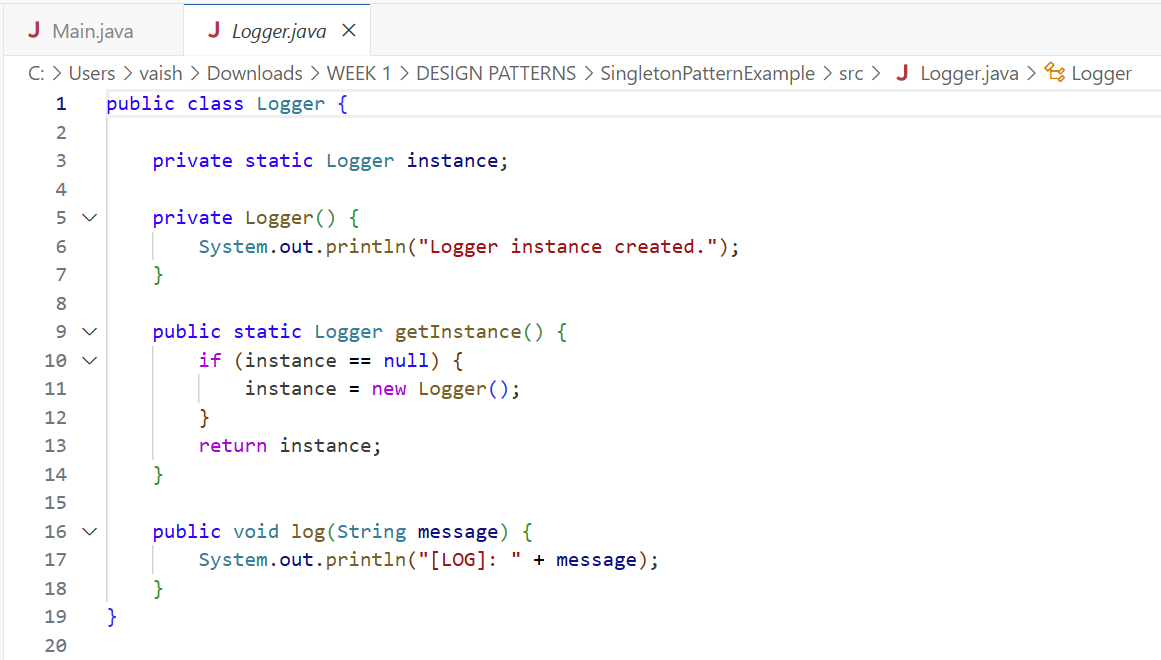
**MANDATORY**

**Exercise 1: Implementing the Singleton Pattern:**

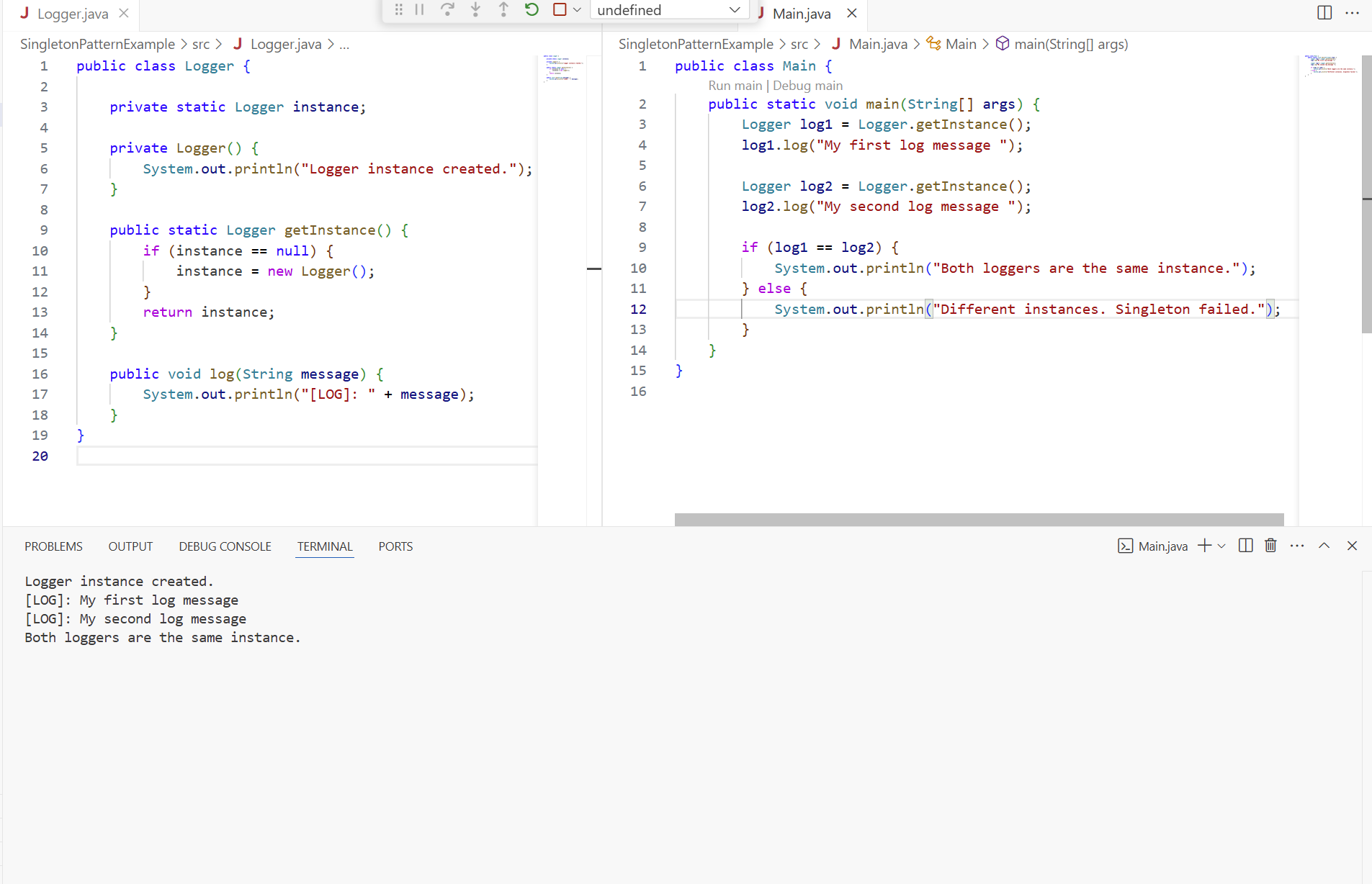
**Main.java:**

****

**Logger.java:**

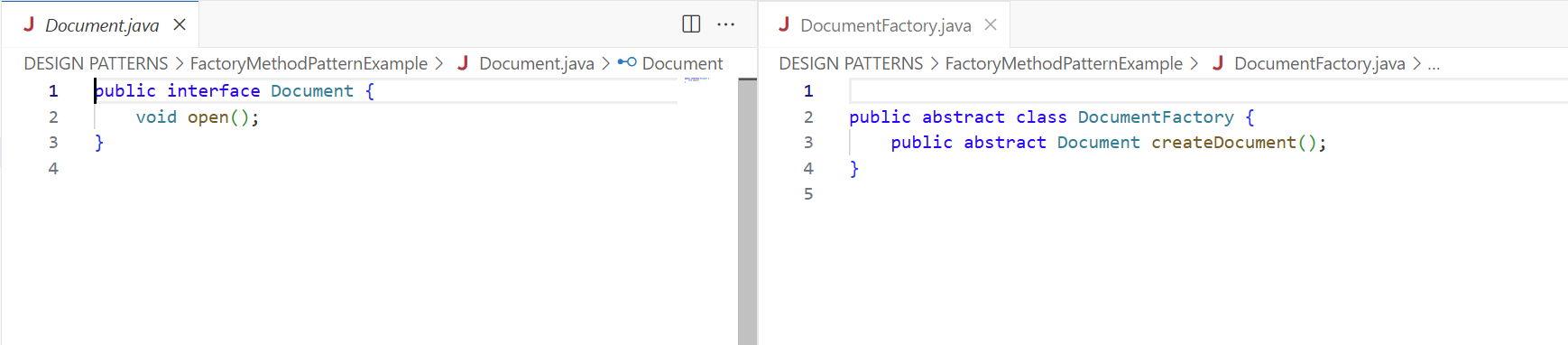
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**OUTPUT:**

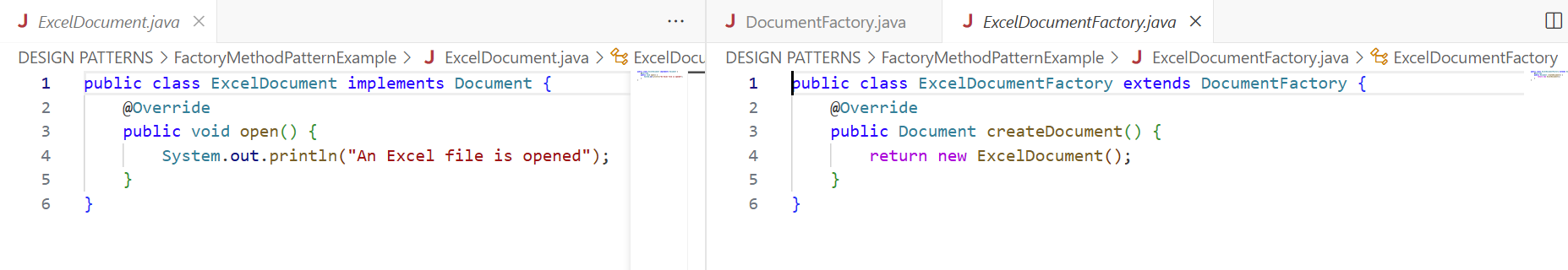


**Exercise 2: Implementing the Factory Method Pattern:**

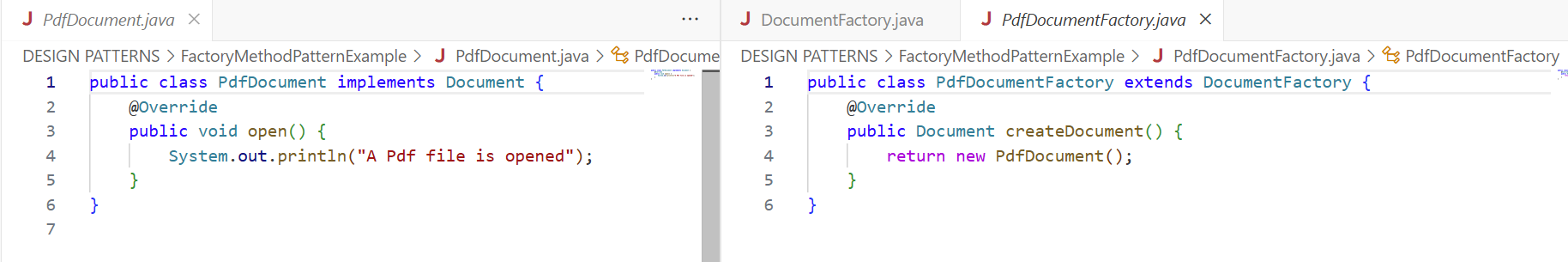
**Document.java, DocumentFactory.java:**

****

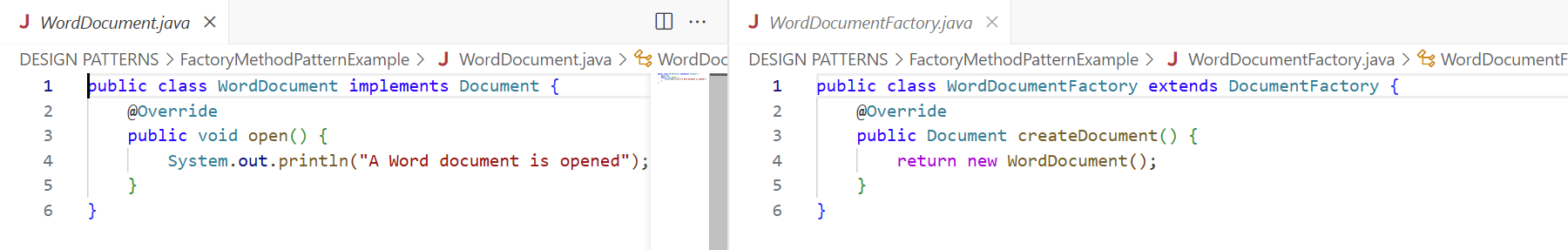
**ExcelDocument.java, ExcelDocumentFactory.java:**

****

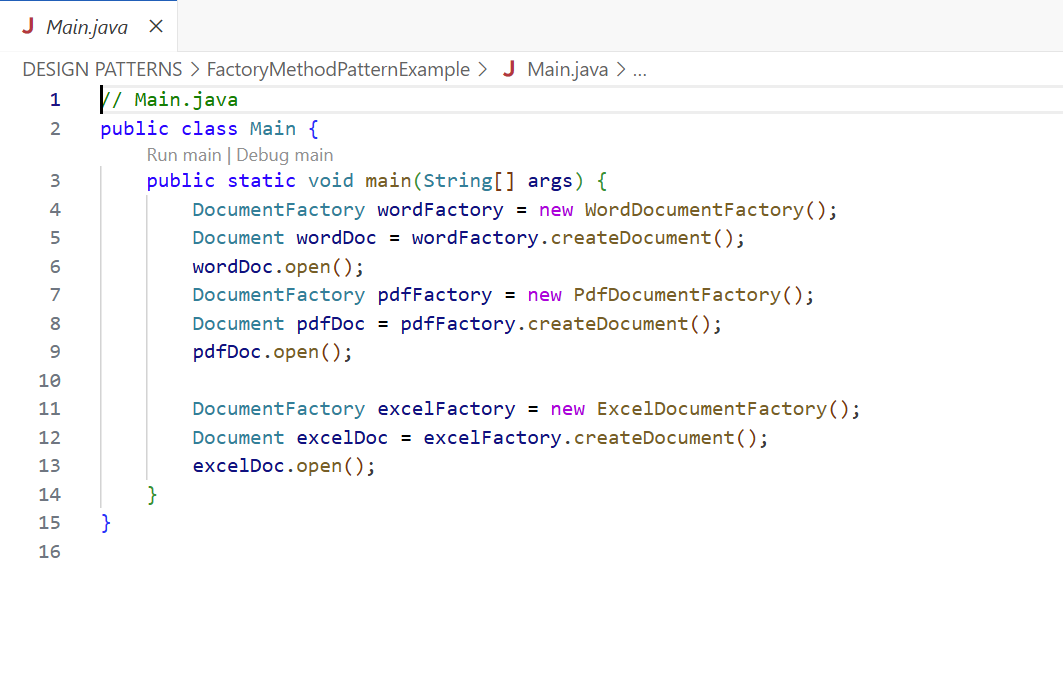
**PdfDocument.java, PdfDocumentFactory.java:**

****

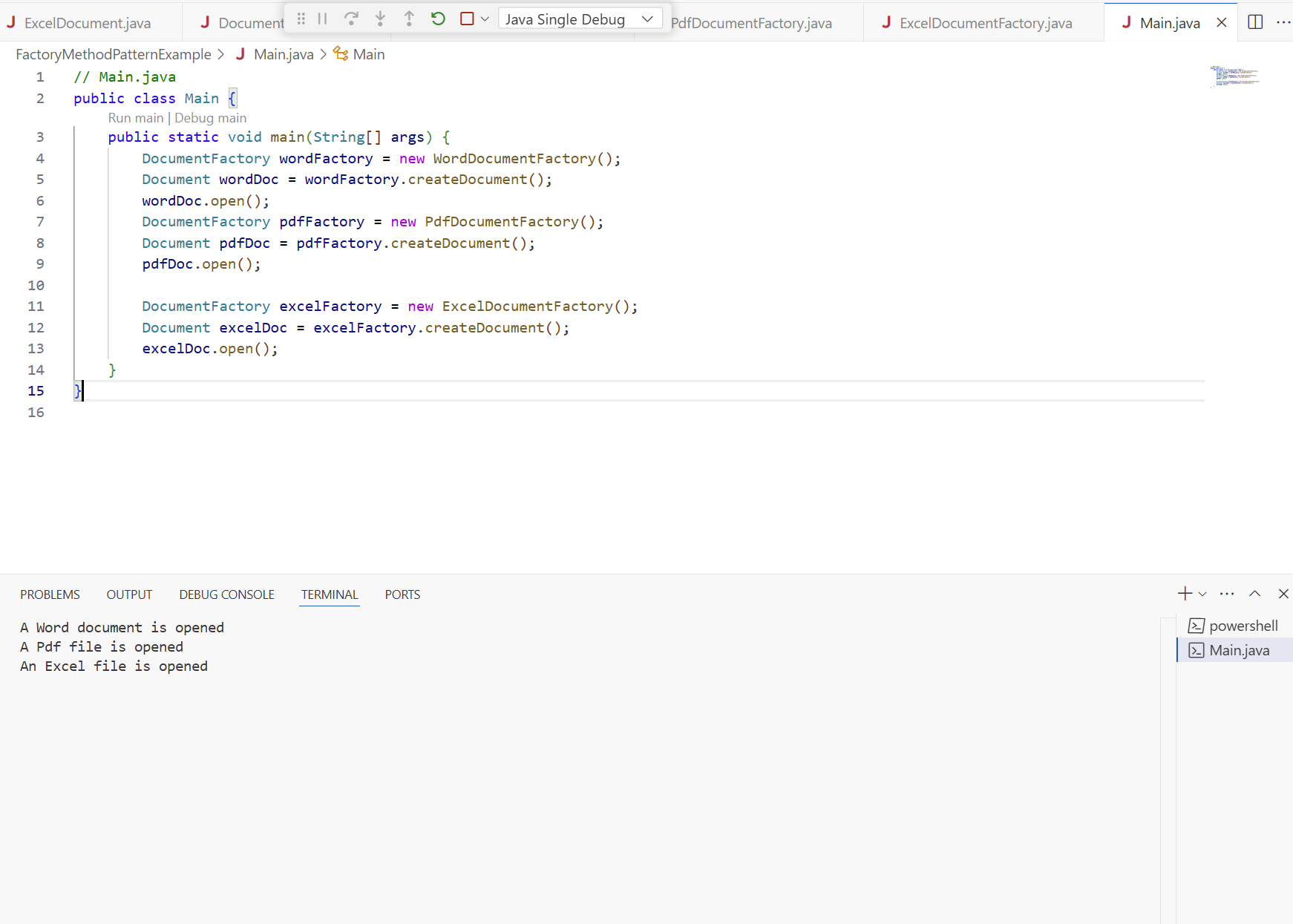
**WordDocument.java, WordDocumentFactory.java:**

****

**Main.java:**

****

**OUTPUT:**

****

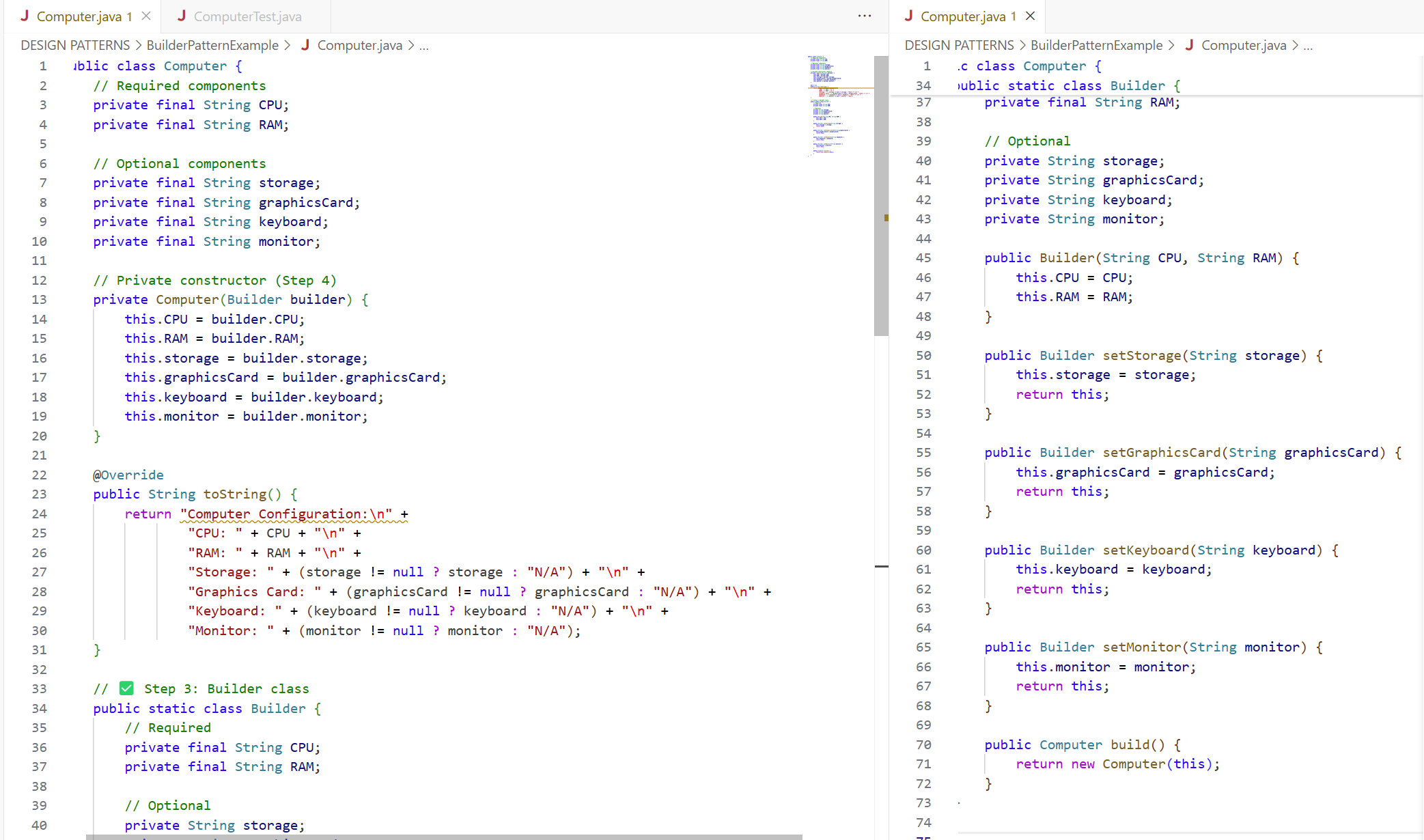
**ADDITIONAL**

**Exercise 3: Implementing the Builder Pattern**

**ComputerTest.java:**



**Computer.java:**

****

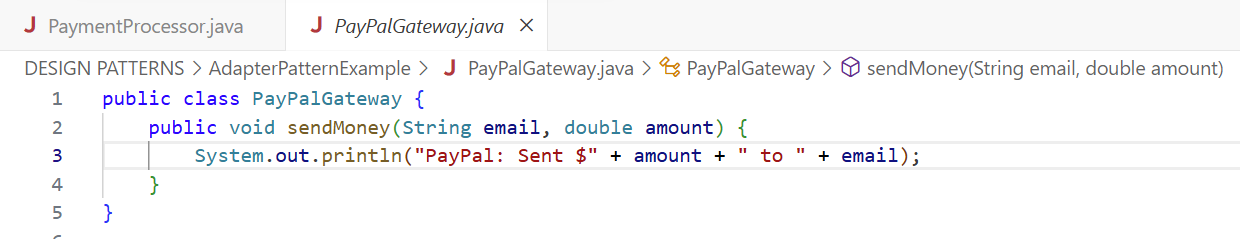
**OUTPUT:**

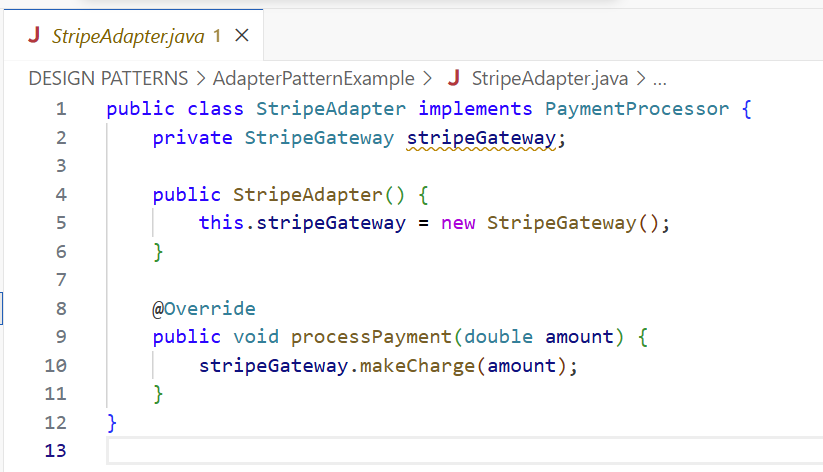
****

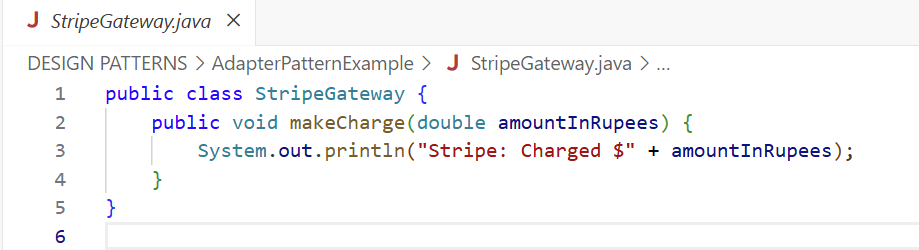
**Exercise 4: Implementing the Adapter Pattern**

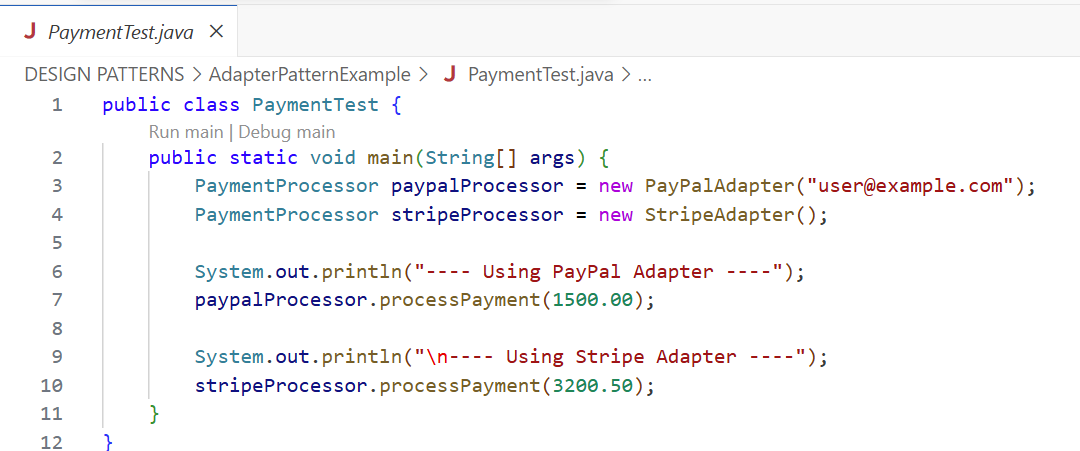
**PaymentProcessor.java, PayPalAdapter.java:**

****

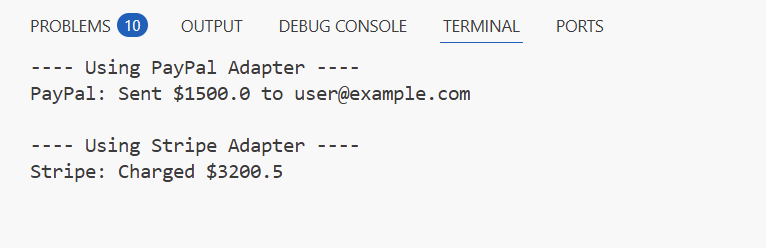
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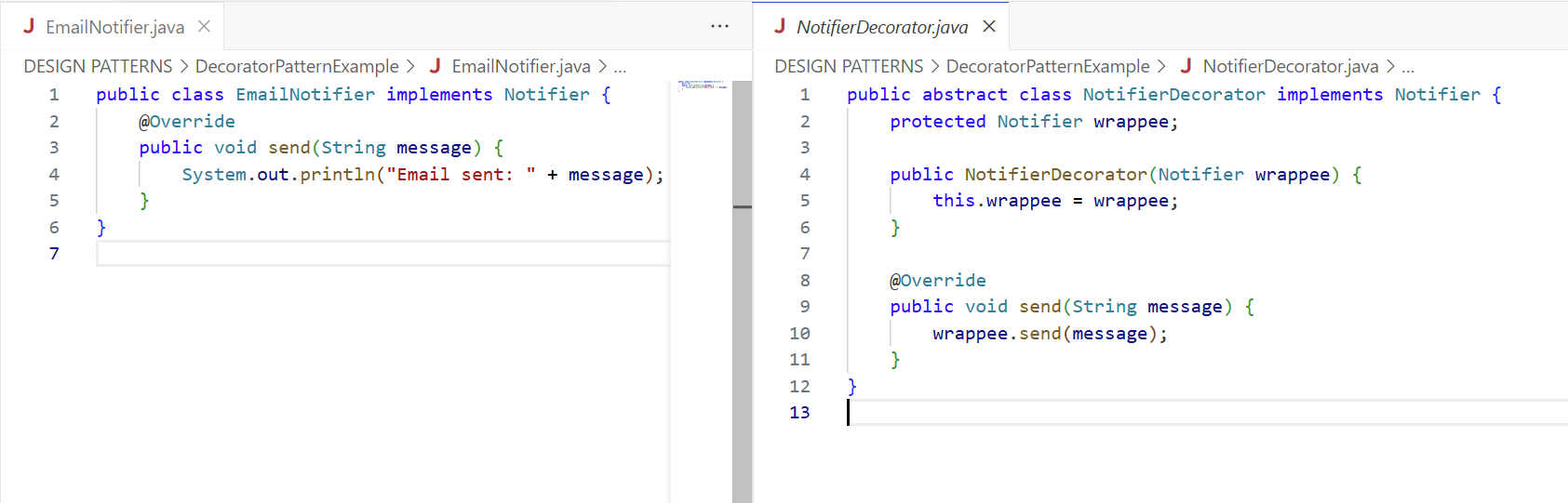
****

**OUTPUT:**

****

**Exercise 5: Implementing the Decorator Pattern**

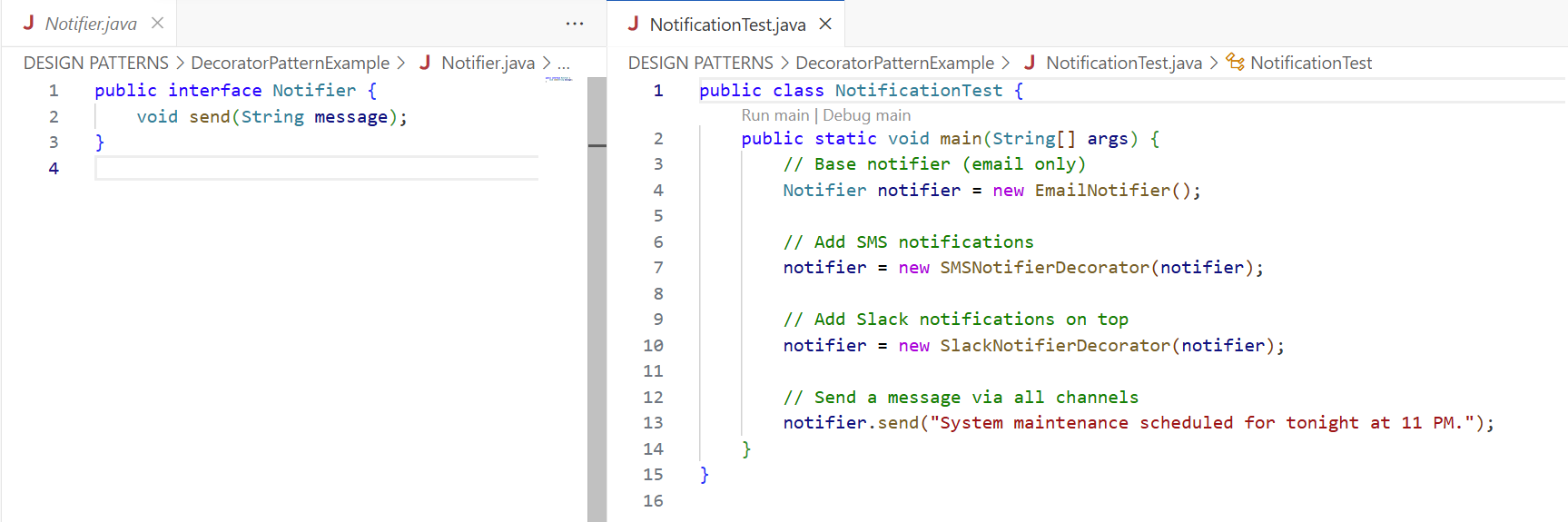
**EmailNotifier.java, NotifierDecorator.java:**

****

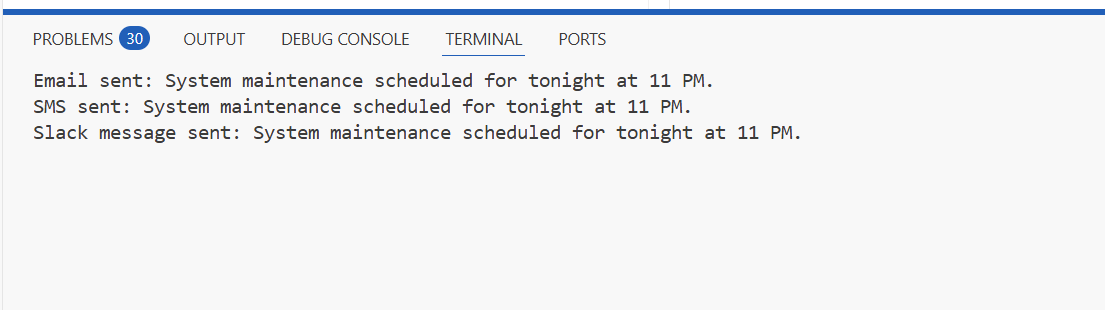
**SlackNotifierDecorator.java, SMSNotifierDecorator.java:**

****

**Notifier.java. NotificationTest.java:**

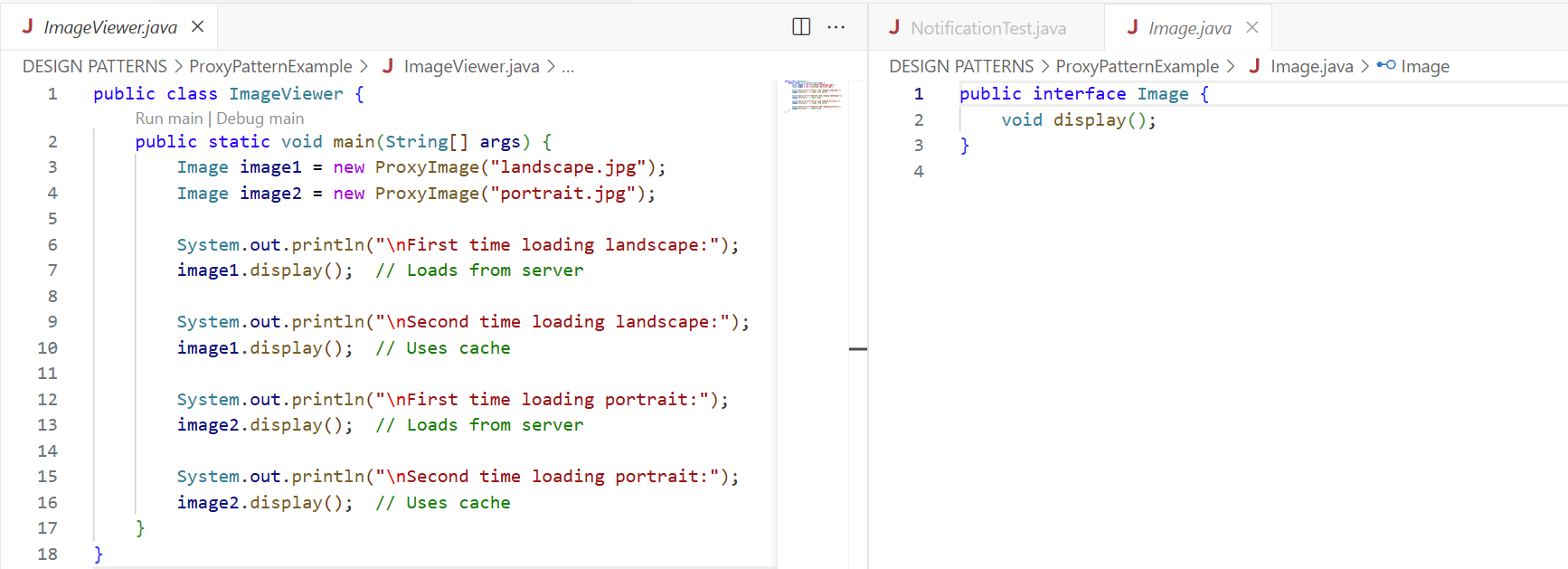
****

**OUTPUT:**

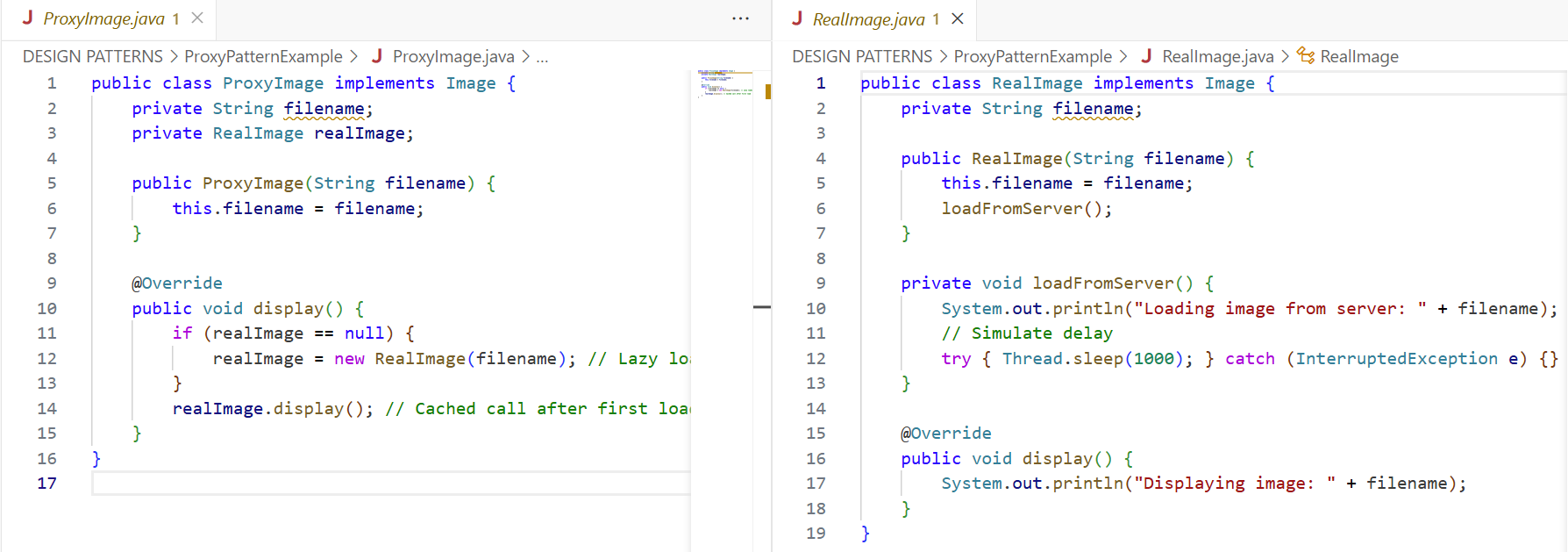
****

**Exercise 6: Implementing the Proxy Pattern**

**ImageViewer.java, Image.java:**

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**ProxyImage.java, RealImage.java:**

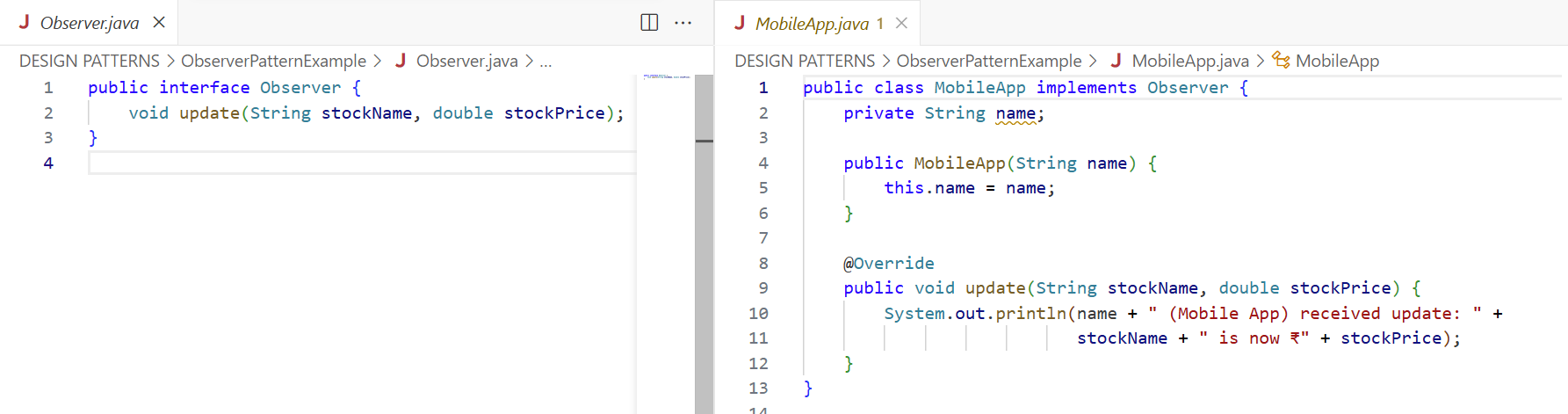
****

**OUTPUT:**

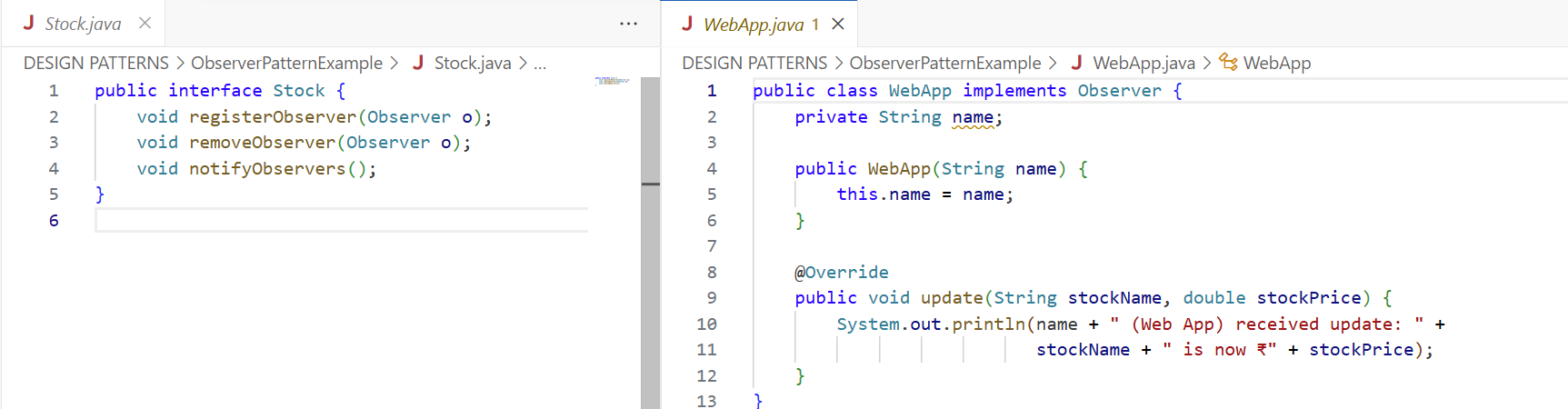
****

**Exercise 7: Implementing the Observer Pattern:**

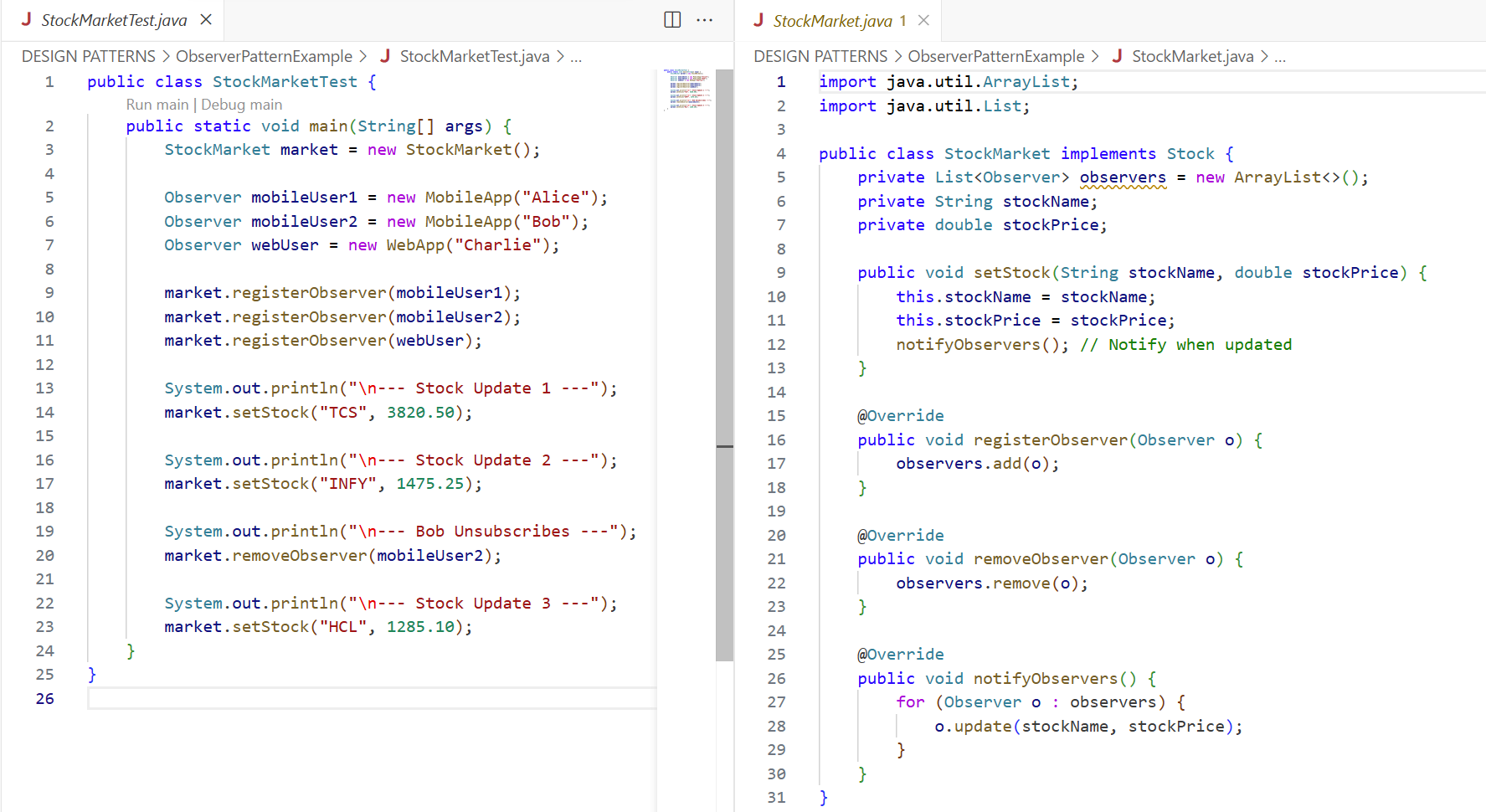
**Observer.java, MobileApp.java:**

****

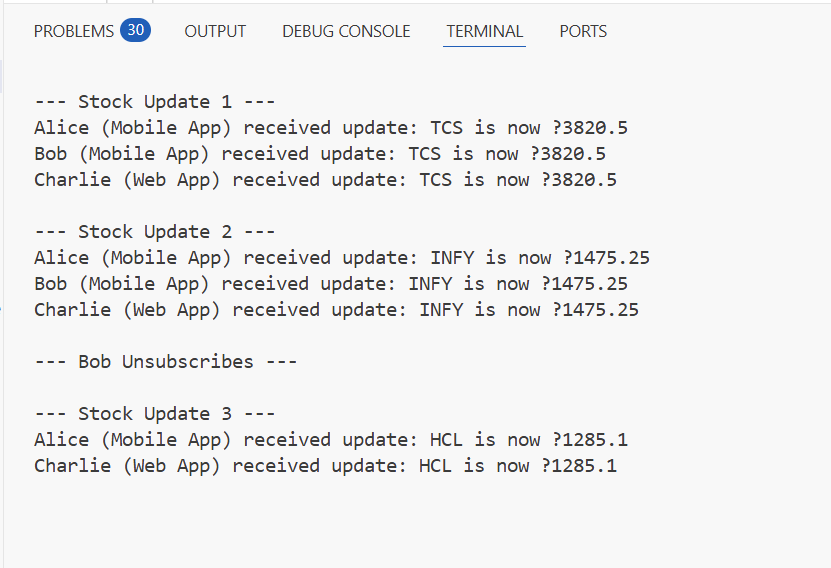
**Stock.java, WebApp.java:**

****

**StockMarketTest.java, StockMarket.java:**

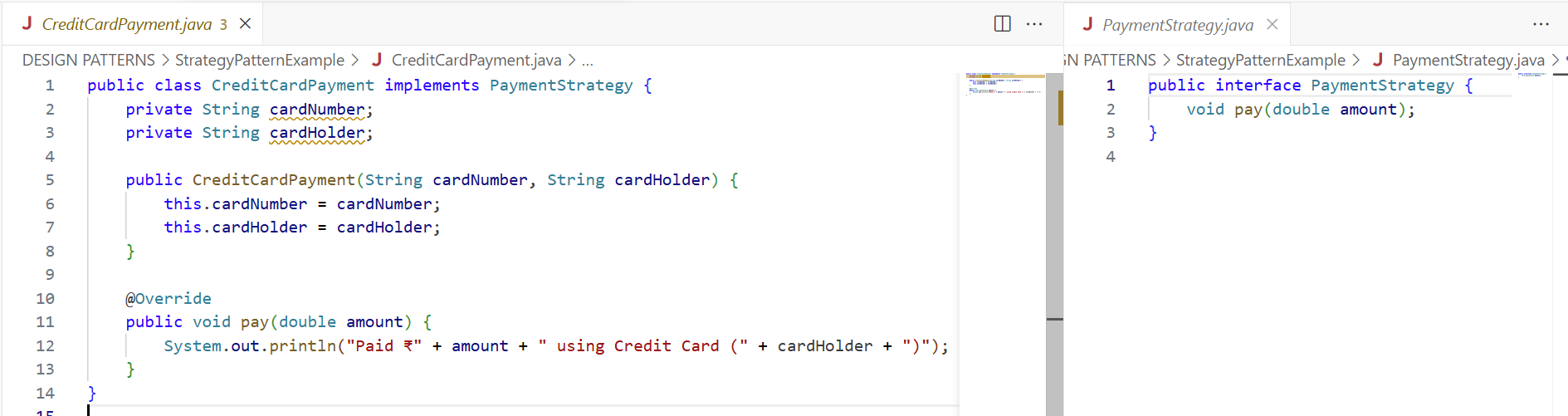
****

**OUTPUT:**

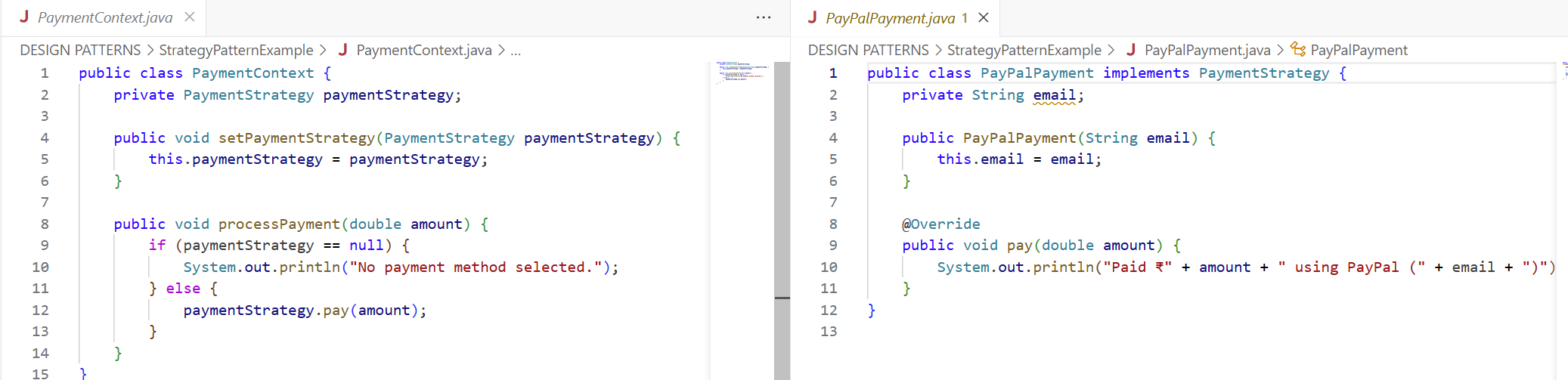
****

**Exercise 8: Implementing the Strategy Pattern**

**CreditCardPayment.java, PaymentStrategy.java:**

****

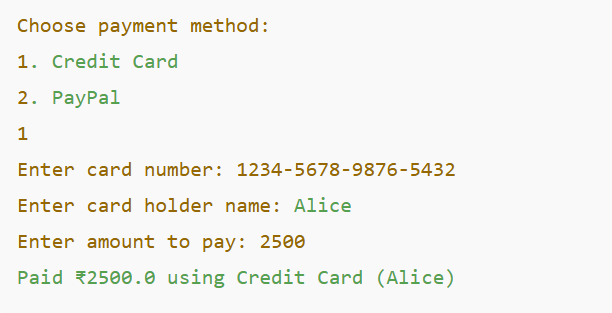
**PaymentContext.java, PayPalPayment.java**

****

**PaymentTest.java**

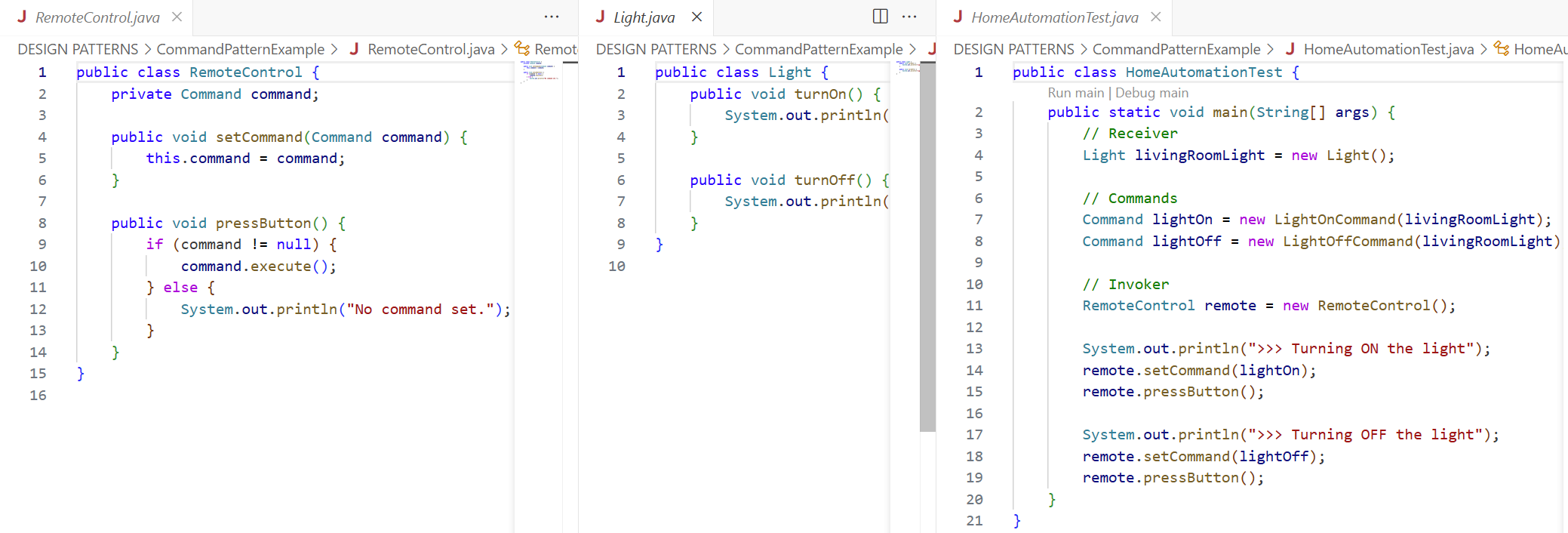
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**OUTPUT**

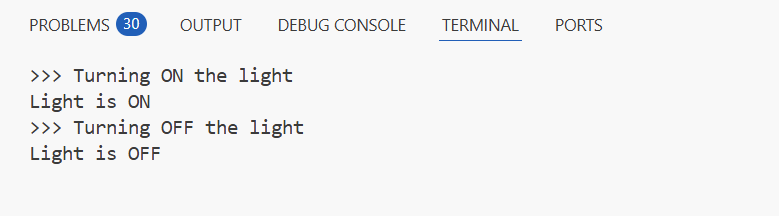
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**Exercise 9: Implementing the Command Pattern**

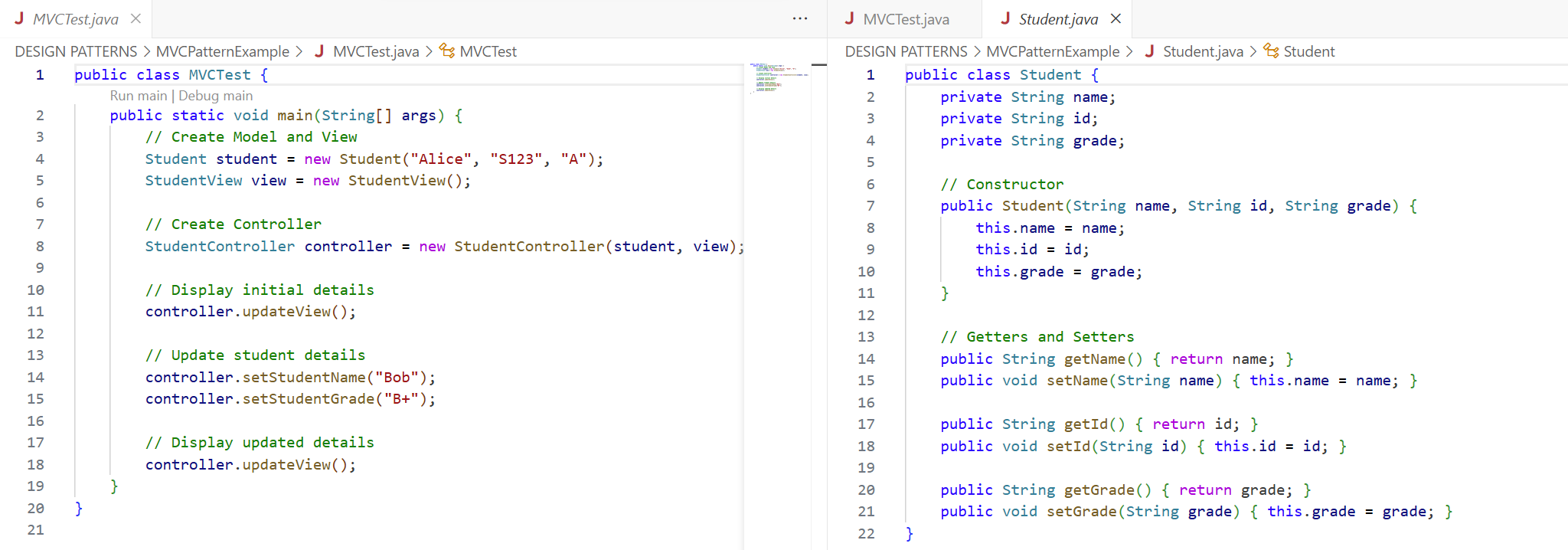
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**OUTPUT**

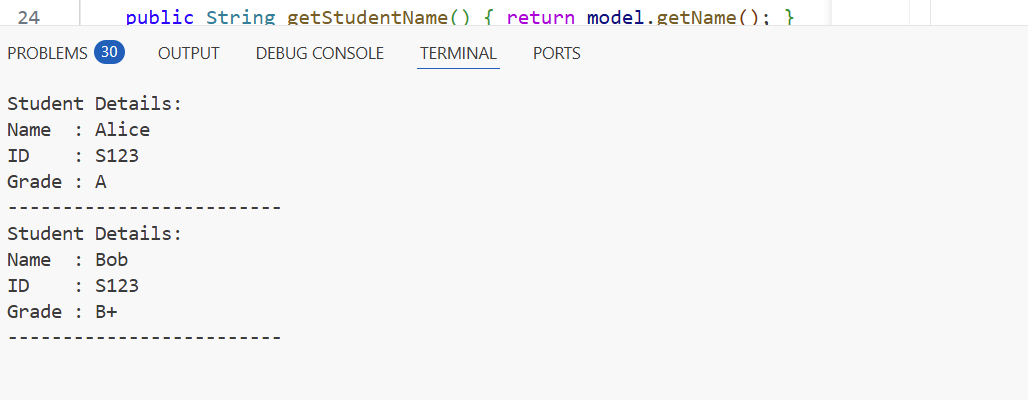
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**Exercise 10: Implementing the MVC Pattern**

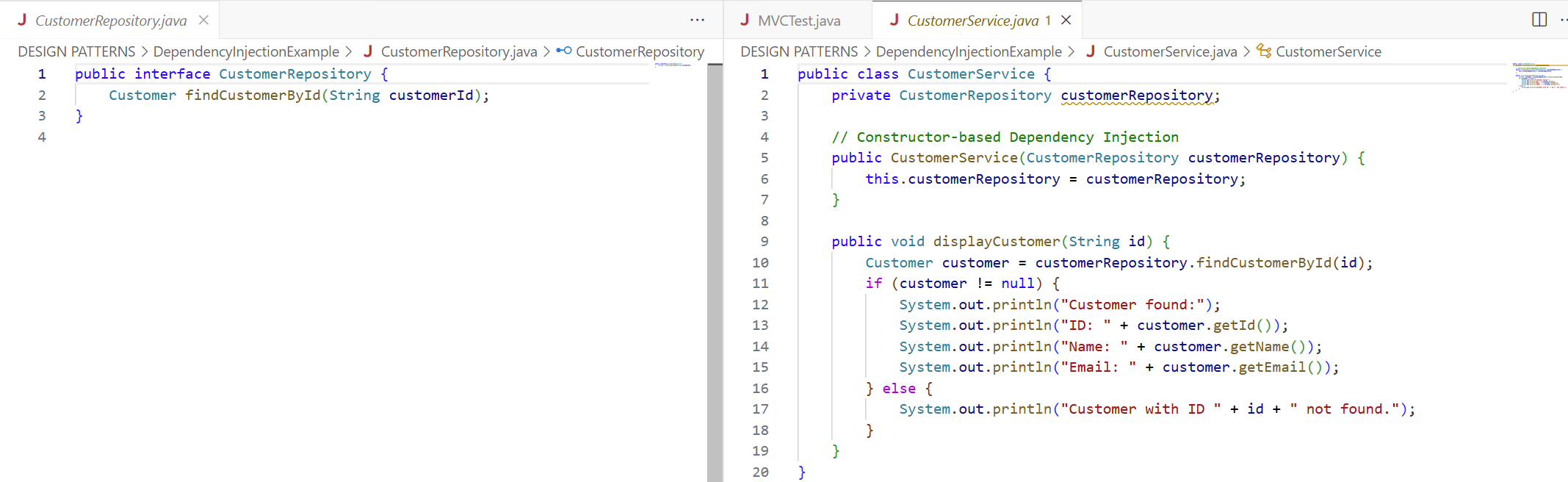
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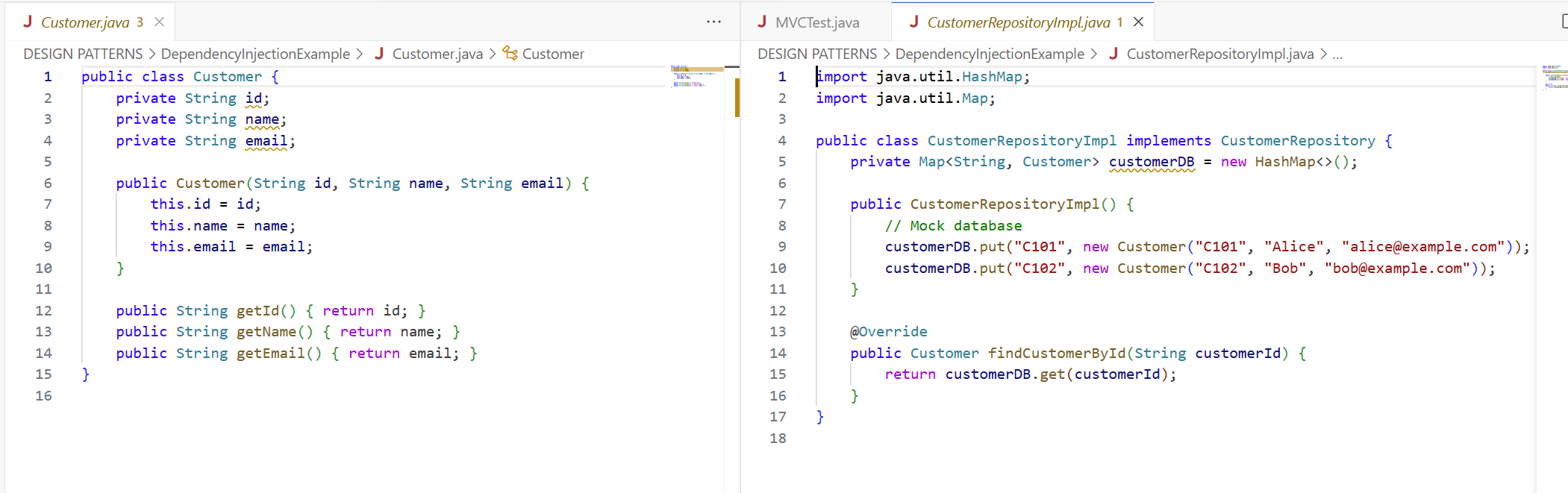
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**OUTPUT**

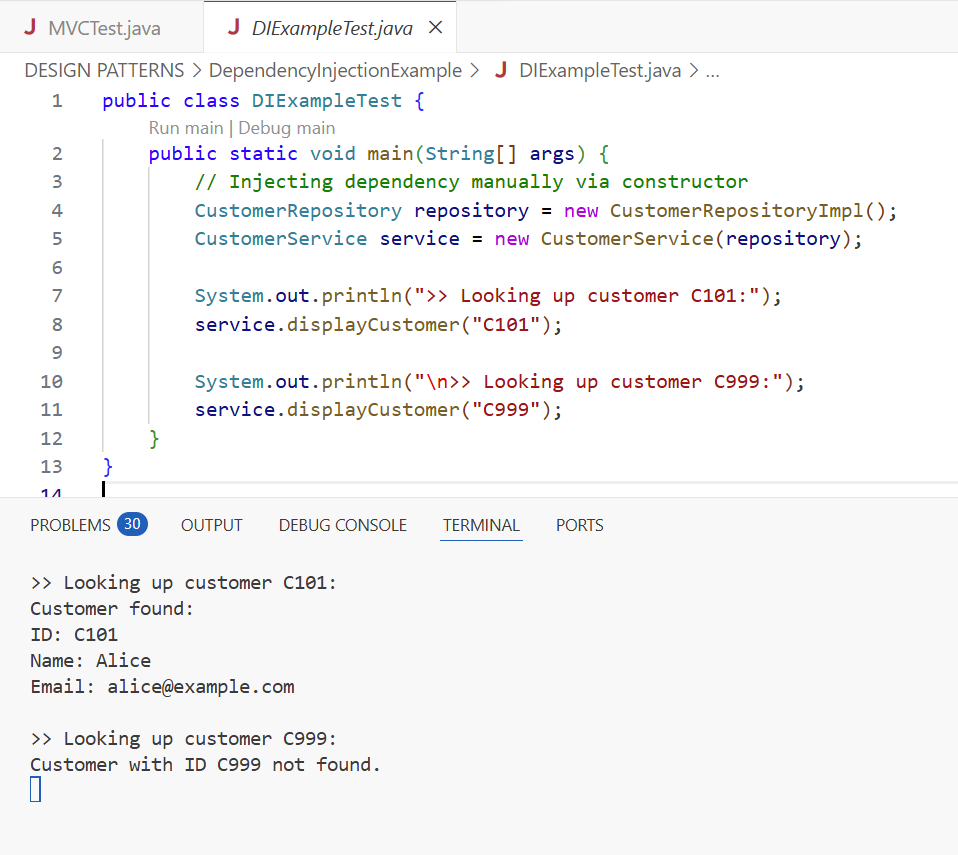
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**Exercise 11: Implementing Dependency Injection**

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**OUTPUT**

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