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

**1. Scenario**

In this assignment, we use the Factory Method Design Pattern to create different types of documents (Word, PDF, Excel) in a document management system. This pattern enables loose coupling and clean object creation without revealing the exact class to the client.

**2. Setup**

A new Java project is named **FactoryMethodPatternExample**.  
We create:

* An interface IDocument for common document actions.
* Three classes: WordFile, PdfFile, ExcelFile that implement IDocument.

**3. Factory Method Pattern Implementation**

We define an abstract class DocumentCreator with the method createDocument().  
Three concrete factory classes implement this method:

* WordCreator
* PdfCreator
* ExcelCreator

Each returns the appropriate type of IDocument.

**4. Testing**

In the DocumentFactoryTest class, we use the factory objects to create different documents. Each document correctly identifies itself, and no direct instantiation of document classes happens in the test — proving the pattern works.