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

interface Document {

void open();

}

class WordDocument implements Document {

public void open() {

System.out.println("Opening Word Document...");

}

}

class PdfDocument implements Document {

public void open() {

System.out.println("Opening PDF Document...");

}

}

class ExcelDocument implements Document {

public void open() {

System.out.println("Opening Excel Document...");

}

}

abstract class DocumentFactory {

public abstract Document createDocument();

}

class WordDocumentFactory extends DocumentFactory {

public Document createDocument() {

return new WordDocument();

}

}

class PdfDocumentFactory extends DocumentFactory {

public Document createDocument() {

return new PdfDocument();

}

}

class ExcelDocumentFactory extends DocumentFactory {

public Document createDocument() {

return new ExcelDocument();

}

}

public class FactoryMethodPatternExample {

public static void main(String[] args) {

DocumentFactory wordFactory = new WordDocumentFactory();

Document wordDoc = wordFactory.createDocument();

wordDoc.open();

DocumentFactory pdfFactory = new PdfDocumentFactory();

Document pdfDoc = pdfFactory.createDocument();

pdfDoc.open();

DocumentFactory excelFactory = new ExcelDocumentFactory();

Document excelDoc = excelFactory.createDocument();

excelDoc.open();

}

}

**Output:**

