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

**Code:**

interface Document {

void open();

}

class WordDocument implements Document {

@Override

public void open() {

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

}

}

class PdfDocument implements Document {

@Override

public void open() {

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

}

}

class ExcelDocument implements Document {

@Override

public void open() {

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

}

}

abstract class DocumentFactory {

abstract Document createDocument();

}

class WordFactory extends DocumentFactory {

@Override

Document createDocument() {

return new WordDocument();

}

}

class PdfFactory extends DocumentFactory {

@Override

Document createDocument() {

return new PdfDocument();

}

}

class ExcelFactory extends DocumentFactory {

@Override

Document createDocument() {

return new ExcelDocument();

}

}

public class FactoryMethodPatternExample {

public static void main(String[] args) {

DocumentFactory wordFactory = new WordFactory();

Document wordDoc = wordFactory.createDocument();

wordDoc.open();

DocumentFactory pdfFactory = new PdfFactory();

Document pdfDoc = pdfFactory.createDocument();

pdfDoc.open();

DocumentFactory excelFactory = new ExcelFactory();

Document excelDoc = excelFactory.createDocument();

excelDoc.open();

}

}

**Output:**

