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

## **Scenario:**

## You are developing a document management system that needs to create different types of documents (e.g., Word, PDF, Excel). Use the Factory Method Pattern to achieve this.

## **CODES:**

### ***Document.java***

package week1.designPatterns.FactoryPattern;

public interface Document {

    void open();

}

* ***ExcelDocument.java***

package week1.designPatterns.FactoryPattern;

public class ExcelDocument implements Document {

    @Override

    public void open() {

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

    }

}

* ***PdfDocument.java***

package week1.designPatterns.FactoryPattern;

public class PdfDocument implements Document {

    @Override

    public void open() {

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

    }

}

* ***WordDocument.java***

package week1.designPatterns.FactoryPattern;

public class WordDocument implements Document {

    @Override

    public void open() {

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

    }

}

* ***DocumentFactory.java***

package week1.designPatterns.FactoryPattern;

public abstract class DocumentFactory {

    public abstract Document createDocument();

}

* ***ExcelFactory.java***

package week1.designPatterns.FactoryPattern;

public class ExcelFactory extends DocumentFactory {

    @Override

    public Document createDocument() {

        return new ExcelDocument();

    }

}

* ***PdfFactory.java***

package week1.designPatterns.FactoryPattern;

public class PdfFactory extends DocumentFactory {

    @Override

    public Document createDocument() {

        return new PdfDocument();

    }

}

* ***WordFactory.java***

package week1.designPatterns.FactoryPattern;

public class WordFactory extends DocumentFactory {

    @Override

    public Document createDocument() {

        return new WordDocument();

    }

}

* ***Main.java***

package week1.designPatterns.FactoryPattern;

public class Main {

    public static void main(String[] args) {

        // Create a Word Document

        DocumentFactory wordFactory = new WordFactory();

        Document wordDoc = wordFactory.createDocument();

        wordDoc.open();

        // Create a PDF Document

        DocumentFactory pdfFactory = new PdfFactory();

        Document pdfDoc = pdfFactory.createDocument();

        pdfDoc.open();

        // Create an Excel Document

        DocumentFactory excelFactory = new ExcelFactory();

        Document excelDoc = excelFactory.createDocument();

        excelDoc.open();

    }

}

* **OUTPUT:**

