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**TASK 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.

**Steps:**

1. **Create a New Java Project:**
   * Create a new Java project named **FactoryMethodPatternExample**.
2. **Define Document Classes:**
   * Create interfaces or abstract classes for different document types such as **WordDocument**, **PdfDocument**, and **ExcelDocument**.
3. **Create Concrete Document Classes:**
   * Implement concrete classes for each document type that implements or extends the above interfaces or abstract classes.
4. **Implement the Factory Method:**
   * Create an abstract class **DocumentFactory** with a method **createDocument()**.
   * Create concrete factory classes for each document type that extends DocumentFactory and implements the **createDocument()** method.
5. **Test the Factory Method Implementation:**
   * Create a test class to demonstrate the creation of different document types using the factory method.

**CODE :**

public class TestFactory {

    public static void main(String[] args) {

        DocumentFactory wordFactory = new WordFactory();

        Document word = wordFactory.createDocument();

        word.open();

        DocumentFactory pdfFactory = new PdfFactory();

        Document pdf = pdfFactory.createDocument();

        pdf.open();

        DocumentFactory excelFactory = new ExcelFactory();

        Document excel = excelFactory.createDocument();

        excel.open();

    } }

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 WordFactory extends DocumentFactory {

    public Document createDocument() {

        return new WordDocument();

    } }

class PdfFactory extends DocumentFactory {

    public Document createDocument() {

        return new PdfDocument();    } }

class ExcelFactory extends DocumentFactory {

    public Document createDocument() {

        return new ExcelDocument();

    }

}

**OUTPUT :**

