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

**Source code:**

public class FactoryMethodPatternExample {

interface Document {

void open();

}

static class WordDocument implements Document {

public void open() {

System.out.println("Opening a Word document.");

}

}

static class PdfDocument implements Document {

public void open() {

System.out.println("Opening a PDF document.");

}

}

static class ExcelDocument implements Document {

public void open() {

System.out.println("Opening an Excel document.");

}

}

abstract static class DocumentFactory {

public abstract Document createDocument();

}

static class WordDocumentFactory extends DocumentFactory {

public Document createDocument() {

return new WordDocument();

}

}

static class PdfDocumentFactory extends DocumentFactory {

public Document createDocument() {

return new PdfDocument();

}

}

static class ExcelDocumentFactory extends DocumentFactory {

public Document createDocument() {

return new ExcelDocument();

}

}

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();

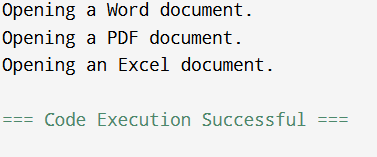
Document excelDoc = excelFactory.createDocument();

excelDoc.open();

}

}

**Output :**

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