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

**Document.java**

public interface Document {

    void open();

}

**WordDocument.java**

public class WordDocument implements Document {

    public void open() {

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

    }

}

**PdfDocument.java**

public class PdfDocument implements Document {

    public void open() {

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

    }

}

**ExcelDocument.java**

public class ExcelDocument implements Document {

    public void open() {

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

    }

}

**DocumentFactory.java**

public abstract class DocumentFactory {

    public abstract Document createDocument();

}

**WordDocumentFactory.java**

public class WordDocumentFactory extends DocumentFactory {

    public Document createDocument() {

        return new WordDocument();

    }

}

**PdfDocumentFactory.java**

public class PdfDocumentFactory extends DocumentFactory {

    public Document createDocument() {

        return new PdfDocument();

    }

}

**ExcelDocumentFactory.java**

public class ExcelDocumentFactory extends DocumentFactory {

    public Document createDocument() {

        return new ExcelDocument();

    }

}

**Test.java**

public class Test {

    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**

