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

**Source code:**

**Document.java**

package documents;

public interface Document {

void open();

}

**WordDocument.java**

package documents;

public class WordDocument implements Document {

public void open() {

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

}

}

**PdfDocument.java**

package documents;

public class PdfDocument implements Document {

public void open() {

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

}

}

**ExcelDocument.java**

package documents;

public class ExcelDocument implements Document {

public void open() {

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

}

}

**DocumentFactory.java**

package documents;

public abstract class DocumentFactory {

public abstract Document createDocument();

}

**WordDocumentFactory.java**

package documents;

public class WordDocumentFactory extends DocumentFactory {

public Document createDocument() {

return new WordDocument();

}

}

**PdfDocumentFactory.java**

package documents;

public class PdfDocumentFactory extends DocumentFactory {

public Document createDocument() {

return new PdfDocument();

}

}

**ExcelDocumentFactory.java**

package documents;

public class PdfDocumentFactory extends DocumentFactory {

public Document createDocument() {

return new PdfDocument();

}

}

**TestFactoryMethod.java**

package documents;

public class TestFactoryMethod {

public static void main(String[] args) {

DocumentFactory wordFactory = new WordDocumentFactory();

Document word = wordFactory.createDocument();

word.open();

DocumentFactory pdfFactory = new PdfDocumentFactory();

Document pdf = pdfFactory.createDocument();

pdf.open();

DocumentFactory excelFactory = new ExcelDocumentFactory();

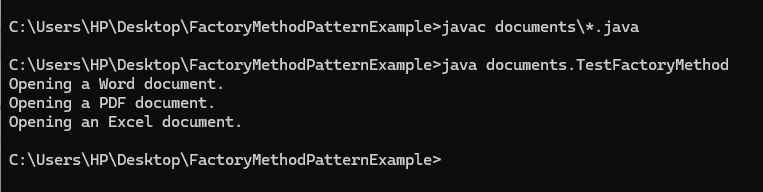
Document excel = excelFactory.createDocument();

excel.open();

}

}

**Output:**

****