**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.

**CODE:**

**Document.java**

package FactoryMethodEx;

public interface Document

{

void open();

}

package FactoryMethodEx;

public class WordDocument implements Document

{

*@Override*

public void open() {

// **TODO** Auto-generated method stub

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

}

}

package FactoryMethodEx;

public class ExcelDocument implements Document

{

*@Override*

public void open() {

// **TODO** Auto-generated method stub

System.***out***.println("Opening a Excel document.");

}

}

package FactoryMethodEx;

public class PdfDocument implements Document

{

*@Override*

public void open() {

// **TODO** Auto-generated method stub

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

}

}

package FactoryMethodEx;

public abstract class DocumentFactory

{

public abstract Document createDocument();

}

package FactoryMethodEx;

public class WordDocumentFactory extends DocumentFactory

{

@Override

public Document createDocument() {

// TODO Auto-generated method stub

return new WordDocument();

}

}

package FactoryMethodEx;

public class ExcelDocumentFactory extends DocumentFactory

{

@Override

public Document createDocument() {

// TODO Auto-generated method stub

return new ExcelDocument();

}

}

package FactoryMethodEx;

public class PdfDocumentFactory extends DocumentFactory

{

@Override

public Document createDocument() {

// TODO Auto-generated method stub

return new PdfDocument();

}

}}

package FactoryMethodEx;

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:

