Exercise 2: Implementing the Factory Method Pattern

Document Interface:

Document.java

package com.example.factorymethod;

public interface Document {

void open();

}

Concrete Document Classes:

WordDocument.java

package com.example.factorymethod;

public class WordDocument implements Document {

public void open() {

System.out.println("Opening Word Document.");

}

}

PdfDocument.java

package com.example.factorymethod;

public class PdfDocument implements Document {

public void open() {

System.out.println("Opening PDF Document.");

}

}

ExcelDocument.java

package com.example.factorymethod;

public class ExcelDocument implements Document {

public void open() {

System.out.println("Opening Excel Document.");

}

}

Abstract Factory and Concrete Factories

DocumentFactory.java

package com.example.factorymethod;

public abstract class DocumentFactory {

public abstract Document createDocument();

}

WordDocumentFactory.java

package com.example.factorymethod;

public class WordDocumentFactory extends DocumentFactory {

public Document createDocument() {

return new WordDocument();

}

}

PdfDocumentFactory.java

package com.example.factorymethod;

public class PdfDocumentFactory extends DocumentFactory {

public Document createDocument() {

return new PdfDocument();

}

}

ExcelDocumentFactory.java

package com.example.factorymethod;

public class ExcelDocumentFactory extends DocumentFactory {

public Document createDocument() {

return new ExcelDocument();

}

}

Test the Factory Method Implementation

TestDocumentFactory.java

package com.example.factorymethod;

public class TestDocumentFactory {

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:

A screen shot of a computer

AI-generated content may be incorrect.