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

**Document.java:**

package factory;

public interface Documents {

void open();

}

**WordDocument.java:**

package factory;

public class WordDocument implements Documents {

public void open() {

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

}

}

**PdfDocument.java:**

package factory;

public class PdfDocument implements Documents {

public void open() {

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

}

}

**ExcelDocument.java:**

package factory;

public class ExcelDocument implements Documents {

public void open() {

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

}

}

**DocumentFactory.java:**

package factory;

public abstract class DocumentFactory {

public abstract Documents createDocument();

}

**WordDocumentFactory.java:**

package factory;

public class WordDocumentFactory extends DocumentFactory {

public Documents createDocument() {

return new WordDocument();

}

}

**PdfDocumentFactory.java:**

package factory;

public class PdfDocumentFactory extends DocumentFactory {

public Documents createDocument() {

return new PdfDocument();

}

}

**ExcelDocumentFactory.java:**

package factory;

public class ExcelDocumentFactory extends DocumentFactory {

public Documents createDocument() {

return new ExcelDocument();

}

}

**TesyFactoryMethode.java:**

package factory;

import java.util.Scanner;

public class TestFactoryMethod {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.println("Select document type to open:");

System.out.println("1. Word Document");

System.out.println("2. PDF Document");

System.out.println("3. Excel Document");

System.out.print("Enter your choice (1-3): ");

int choice = scanner.nextInt();

DocumentFactory factory = null;

switch (choice) {

case 1:

factory = new WordDocumentFactory();

break;

case 2:

factory = new PdfDocumentFactory();

break;

case 3:

factory = new ExcelDocumentFactory();

break;

default:

System.out.println("Invalid choice. Please run the program again.");

scanner.close();

return;

}

Documents document = factory.createDocument();

document.open();

scanner.close();

}

}





