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

Document.java

package FactoryMethod;

public interface Document {

void open();

}

WordDocument.java

package FactoryMethod;

public class WordDocument implements Document {

public void open() {

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

}

}

PdfDocument.java

package FactoryMethod;

public class PdfDocument implements Document {

public void open() {

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

}

}

ExcelDocument.java

package FactoryMethod;

public class ExcelDocument implements Document {

public void open() {

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

}

}

DocumentFactory.java

package FactoryMethod;

public abstract class DocumentFactory {

public abstract Document createDocument();

}

WordFactory.java

package FactoryMethod;

public class WordFactory extends DocumentFactory {

public Document createDocument() {

return new WordDocument();

}

}

PdfFactory.java

package FactoryMethod;

public class PdfFactory extends DocumentFactory {

public Document createDocument() {

return new PdfDocument();

}

}

ExcelFactory.java

package FactoryMethod;

public class ExcelFactory extends DocumentFactory {

public Document createDocument() {

return new ExcelDocument();

}

}

Main.java

package FactoryMethod;

public class Main {

public static void main(String[] args) {

DocumentFactory wordFactory = new WordFactory();

Document wordDoc = wordFactory.createDocument();

wordDoc.open();

DocumentFactory pdfFactory = new PdfFactory();

Document pdfDoc = pdfFactory.createDocument();

pdfDoc.open();

DocumentFactory excelFactory = new ExcelFactory();

Document excelDoc = excelFactory.createDocument();

excelDoc.open();

}

}

Output:

Opening Word Document

Opening PDF Document

Opening Excel Document