**Week 1**

**Design principles & Patterns :-**

**Hands-on :-**

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

Code : -

1. IDocument.java

public interface IDocument {

void open();

}

1. WordDocument.java

public class WordDocument implements IDocument {

public void open() {

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

}

}

1. PdfDocument.java

public class PdfDocument implements IDocument {

public void open() {

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

}

}

1. ExcelDocument.java

public class ExcelDocument implements IDocument {

public void open() {

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

}

}

1. DocumentFactory.java(Abstract Factory Creation)

public abstract class DocumentFactory {

public abstract IDocument createDocument();

}

1. WordDocumentFactory.java

public class WordDocumentFactory extends DocumentFactory {

public IDocument createDocument() {

return new WordDocument();

}

}

1. PdfDocumentFactory.java

public class PdfDocumentFactory extends DocumentFactory {

public IDocument createDocument() {

return new PdfDocument();

}

}

1. ExcelDocumentFactory.java

public class ExcelDocumentFactory extends DocumentFactory {

public IDocument createDocument() {

return new ExcelDocument();

}

}

1. test.java

public class Main {

public static void main(String[] args) {

DocumentFactory wordFactory = new WordDocumentFactory();

IDocument wordDoc = wordFactory.createDocument();

wordDoc.open();

DocumentFactory pdfFactory = new PdfDocumentFactory();

IDocument pdfDoc = pdfFactory.createDocument();

pdfDoc.open();

DocumentFactory excelFactory = new ExcelDocumentFactory();

IDocument excelDoc = excelFactory.createDocument();

excelDoc.open();

}

}

**OUTPUT**  