Exercise 2: Implementing the Factory Method Pattern

Code:

using System;

namespace FactoryMethodDemo

{

// Product Interface

public interface IDocument

{

void Open();

}

// Concrete Product: Word Document

public class WordDocument : IDocument

{

public void Open()

{

Console.WriteLine("Word document opened.");

}

}

// Concrete Product: PDF Document

public class PdfDocument : IDocument

{

public void Open()

{

Console.WriteLine("PDF document opened.");

}

}

// Creator Abstract Class

public abstract class DocumentCreator

{

public abstract IDocument CreateDocument();

public void OpenDocument()

{

IDocument doc = CreateDocument();

doc.Open();

}

}

// Concrete Creator: Word Document Creator

public class WordDocumentCreator : DocumentCreator

{

public override IDocument CreateDocument()

{

return new WordDocument();

}

}

// Concrete Creator: PDF Document Creator

public class PdfDocumentCreator : DocumentCreator

{

public override IDocument CreateDocument()

{

return new PdfDocument();

}

}

// Client Code

class Program

{

static void Main(string[] args)

{

DocumentCreator creator;

// Create and open a Word document

creator = new WordDocumentCreator();

creator.OpenDocument();

// Create and open a PDF document

creator = new PdfDocumentCreator();

creator.OpenDocument();

Console.ReadLine(); // Keep console open

}

}

}

Output:

