Exercise 2: Implementing the Factory Method Pattern

Scenario:

You are developing a document management system that needs to create different types of documents (e.g., Word, PDF, Excel). Use the Factory Method Pattern to achieve this.

//FactoryMethodPatternExample.java

```
public class FactoryMethodPatternExample {
    // Document interface
    interface Document {
        void open();
    }
    // Document classes
    static class WordDocument implements Document {
        public void open() {
            System.out.println("Opening Word
document...");
        }
    }
    static class PdfDocument implements Document {
        public void open() {
            System.out.println("Opening PDF
document...");
        }
    }
    static class ExcelDocument implements Document {
        public void open() {
```

```
System.out.println("Opening Excel
document...");
    }
    // Abstract Factory
    abstract static class DocumentFactory {
        public abstract Document createDocument();
    }
    // Concrete Factories
    static class WordFactory extends DocumentFactory {
        public Document createDocument() {
            return new WordDocument();
        }
    }
    static class PdfFactory extends DocumentFactory {
        public Document createDocument() {
            return new PdfDocument();
        }
    }
    static class ExcelFactory extends DocumentFactory {
       public Document createDocument() {
            return new ExcelDocument();
        }
    }
    // Main method
    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:

```
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