**Exercise 2:**

**Implementing the Factory Method Pattern:**

Document.java:

**package** factorymethod;

**public** **interface** Document {

**void** open();

}

DocumentFactory.java:

**package** factorymethod;

**public** **abstract** **class** DocumentFactory {

**public** **abstract** Document createDocument();

}

ExcelDocument.java:

**package** factorymethod;

**public** **class** ExcelDocument **implements** Document{

**public** **void** open()

{

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

}

}

ExcelDocumentFactory.java:

**package** factorymethod;

**public** **class** ExcelDocumentFactory **extends** DocumentFactory{

**public** Document createDocument()

{

**return** **new** ExcelDocument();

}

}

pdfDocument.java:

**package** factorymethod;

**public** **class** PdfDocument **implements** Document

{ **public** **void** open()

{

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

}

}

pdfDocumentFactory.java:

**package** factorymethod;

**public** **class** pdfDocumentFactory **extends** DocumentFactory {

**public** Document createDocument()

{

**return** **new** PdfDocument();

}

}

WordDocument.java:

**package** factorymethod;

**public** **class** WordDocument **implements** Document{

**public** **void** open()

{

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

}

}

WordDocumentFactory.java:

**package** factorymethod;

**public** **class** WordDocumentFactory **extends** DocumentFactory{

**public** Document createDocument()

{

**return** **new** WordDocument();

}

}

DocumentFactoryTest.java:

**package** factorymethod;

**public** **class** DocumentFactoryTest {

**public** **static** **void** main(String[] args)

{

DocumentFactory wordFactory=**new** WordDocumentFactory();

Document wordDoc=wordFactory.createDocument();

wordDoc.open();

DocumentFactory pdfFactory=**new** pdfDocumentFactory();

Document pdfDoc=pdfFactory.createDocument();

pdfDoc.open();

DocumentFactory excelFactory=**new** ExcelDocumentFactory();

Document exDoc=excelFactory.createDocument();

exDoc.open();

}

}

**Output:**

