1. ***Create an XML Document***

<?xml version="1.0" encoding="UTF-8"?>

<library>

<book>

<title>The Great Gatsby</title>

<author>F. Scott Fitzgerald</author>

<year>1925</year>

<genre>Fiction</genre>

</book>

<book>

<title>To Kill a Mockingbird</title>

<author>Harper Lee</author>

<year>1960</year>

<genre>Fiction</genre>

</book>

<book>

<title>1984</title>

<author>George Orwell</author>

<year>1949</year>

<genre>Dystopian</genre>

</book>

</library>

1. ***Create a Java Class for XML Parsing:***

import org.w3c.dom.\*;

import javax.xml.parsers.\*;

public class XmlParser {

public static void main(String[] args) {

try {

**// Create a new DocumentBuilderFactory and DocumentBuilder**

DocumentBuilderFactory factory =

DocumentBuilderFactory.newInstance();

DocumentBuilder builder = factory.newDocumentBuilder();

**// Parse the XML file**

Document document = builder.parse("books.xml");

**// Normalize the document**

document.getDocumentElement().normalize();

**// Get the root element (library)**

NodeList nodeList = document.getElementsByTagName("book");

**// Loop through each book in the XML document**

for (int i = 0; i < nodeList.getLength(); i++) {

Node node = nodeList.item(i);

if (node.getNodeType() == Node.ELEMENT\_NODE) {

Element element = (Element) node;

**// Get and print the details of each book**

String title =

element.getElementsByTagName("title").item(0).getTextContent();

String author =

element.getElementsByTagName("author").item(0).getTextContent();

String year =

element.getElementsByTagName("year").item(0).getTextContent();

String genre =

element.getElementsByTagName("genre").item(0).getTextContent();

System.out.println("Title: " + title);

System.out.println("Author: " + author);

System.out.println("Year: " + year);

System.out.println("Genre: " + genre);

System.out.println("-----------");

}

}

} catch (Exception e) {

e.printStackTrace();

}

}

}

1. ***Modifying XML Data***

***// Modify the year of the first book***

Element firstBook = (Element) nodeList.item(0);

firstBook.getElementsByTagName("year").item(0).setTextContent("2023");

***// Save the modified document***

TransformerFactory transformerFactory =

TransformerFactory.newInstance();

Transformer transformer = transformerFactory.newTransformer();

DOMSource source = new DOMSource(document);

StreamResult result = new StreamResult(new File("updated\_books.xml"));

transformer.transform(source, result);

