

# COMPILER CONSTRUCTION

## Assignment 3



### Instructor

Mam Tayyaba

### Submitted by

NAMES	REGISTRATION NO
Areeba farooq	200901058

IST, Islamabad

BSCS-SECTION A

DATE:11Jan,2023

## **Overview of Parser:**

Parsing an XML file involves analyzing the structure and content of an XML document and turning it into a more easily understandable format, such as a tree or a list of objects. This process is useful for extracting specific data from an XML file, as well as for manipulating and modifying the contents of the file. There are several tools and libraries available for parsing XML files, including DOM (Document Object Model) parsers, SAX (Simple API for XML) parsers, and XML Pull parsers. Each of these approaches has its own strengths and weaknesses, and the best choice will depend on the specific requirements of the task at hand. Regardless of the approach taken, proper handling of errors and edge cases is important to ensure that the XML file is parsed accurately and efficiently

In this Assignment I have parse xml file using python. The data which was extracted from file includes: 1. Book\_Id

2. Author\_Name

3. Title

4. Genre

5. Price

6. Publish\_date

7. Description

We have use XML file as input and parse xml file using python

## CODE:

```
@author: Areeba
"""

import xml.etree.ElementTree as ET
from openpyxl import Workbook

#parsing
tree = ET.parse('compiler.xml')
root = tree.getroot()

# Create a new Excel workbook
workbook = Workbook()
# Get the active sheet
sheet = workbook.active
# Define the headers for the sheet
sheet.append(["Book_id", "Author_Name", "Title", "Genre", "Price", "Publish_date", "Description"])

for book in root.findall('book'):
    book_id = book.get('id')
    author_name = book.find('author').text
    title = book.find('title').text
    genre = book.find('genre').text
    price = book.find('price').text
    publish_date = book.find('publish_date').text
    description = book.find('description').text

    print(f'Book_id: {book_id}')
    print(f'Author Name: {author_name}')
    print(f'Title: {title}')
    print(f'Genre: {genre}')
    print(f'Price: {price}')
    print(f'Publish_date: {publish_date}')
    print(f'Description: {description}')

    sheet.append([book_id, author_name, title, genre, price, publish_date, description])

workbook.save("books.xlsx")
```

## OUTPUT:

Book\_id: bk101  
Author Name: Gambardella, Matthew  
Title: XML Developer's Guide  
Genre: Computer  
Price: 44.95  
Publish\_date: 2000-10-01  
Description: An in-depth look at creating applications  
            with XML.

Book\_id: bk102  
Author Name: Ralls, Kim  
Title: Midnight Rain  
Genre: Fantasy  
Price: 5.95  
Publish\_date: 2000-12-16  
Description: A former architect battles corporate zombies,  
            an evil sorceress, and her own childhood to become queen  
            of the world.

Book\_id: bk103  
Author Name: Corets, Eva  
Title: Maeve Ascendant  
Genre: Fantasy  
Price: 5.95  
Publish\_date: 2000-11-17  
Description: After the collapse of a nanotechnology  
            society in England, the young survivors lay the  
            foundation for a new society.

Book\_id: bk104  
Author Name: Corets, Eva  
Title: Oberon's Legacy  
Genre: Fantasy  
Price: 5.95  
Publish\_date: 2001-03-10  
Description: In post-apocalypse England, the mysterious  
            agent known only as Oberon helps to create a new life  
            for the inhabitants of London. Sequel to Maeve

Genre: Fantasy  
Price: 5.95  
Publish\_date: 2001-03-10  
Description: In post-apocalypse England, the mysterious agent known only as Oberon helps to create a new life for the inhabitants of London. Sequel to Maeve Ascendant.

Book\_id: bk105  
Author Name: Corets, Eva  
Title: The Sundered Grail  
Genre: Fantasy  
Price: 5.95  
Publish\_date: 2001-09-10  
Description: The two daughters of Maeve, half-sisters, battle one another for control of England. Sequel to Oberon's Legacy.

Book\_id: bk106  
Author Name: Randall, Cynthia  
Title: Lover Birds  
Genre: Romance  
Price: 4.95  
Publish\_date: 2000-09-02  
Description: When Carla meets Paul at an ornithology conference, tempers fly as feathers get ruffled.

Book\_id: bk107  
Author Name: Thurman, Paula  
Title: Splish Splash  
Genre: Romance  
Price: 4.95  
Publish\_date: 2000-11-02  
Description: A deep sea diver finds true love twenty thousand leagues beneath the sea.

Book\_id: bk108  
Author Name: Knorr, Stefan  
Title: Creepy Crawlies  
Genre: Horror  
Price: 4.95  
Publish\_date: 2000-12-06  
Description: An anthology of horror stories about roaches,

Book\_id: bk109  
Author Name: Kress, Peter  
Title: Paradox Lost  
Genre: Science Fiction  
Price: 6.95  
Publish\_date: 2000-11-02  
Description: After an inadvertant trip through a Heisenberg Uncertainty Device, James Salway discovers the problems of being quantum.

Book\_id: bk110  
Author Name: O'Brien, Tim  
Title: Microsoft .NET: The Programming Bible  
Genre: Computer  
Price: 36.95  
Publish\_date: 2000-12-09  
Description: Microsoft's .NET initiative is explored in detail in this deep programmer's reference.

Book\_id: bk111  
Author Name: O'Brien, Tim  
Title: MSXML3: A Comprehensive Guide  
Genre: Computer  
Price: 36.95  
Publish\_date: 2000-12-01  
Description: The Microsoft MSXML3 parser is covered in detail, with attention to XML DOM interfaces, XSLT processing, SAX and more.

Book\_id: bk112  
Author Name: Galos, Mike  
Title: Visual Studio 7: A Comprehensive Guide  
Genre: Computer  
Price: 49.95  
Publish\_date: 2001-04-16  
Description: Microsoft Visual Studio 7 is explored in depth, looking at how Visual Basic, Visual C++, C#, and ASP+ are integrated into a comprehensive development environment.

After extracting the above information , I have created an excel file to record the data in the following table format

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1	Book_id	Author_Na	Title	Genre	Price	Publish_da	Description															
2	bk101	Gambardel	XML Devel	Computer	44.95	2000-10-01	An in-depth look at creating applications with XML.															
3	bk102	Ralls, Kim	Midnight R	Fantasy	5.95	2000-12-11	A former architect battles corporate zombies, an evil sorceress, and her own childhood to become queen of the world.															
4	bk103	Corets, Evi	Maeve Asc	Fantasy	5.95	2000-11-11	After the collapse of a nanotechnology society in England, the young survivors lay the foundation for a new society.															
5	bk104	Corets, Evi	Oberon's L	Fantasy	5.95	2001-03-11	In post-apocalypse England, the mysterious agent known only as Oberon helps to create a new life for the inhabitants of London. Sequel to Maeve Ascendant.															
6	bk105	Corets, Evi	The Sundei	Fantasy	5.95	2001-09-11	The two daughters of Maeve, half-sisters, battle one another for control of England. Sequel to Oberon's Legacy.															
7	bk106	Randall, C	Lover Birds	Romance	4.95	2000-09-01	When Carla meets Paul at an ornithology conference, tempers fly as feathers get ruffled.															
8	bk107	Thurman, f	Splish Spla	Romance	4.95	2000-11-01	A deep sea diver finds true love twenty thousand leagues beneath the sea.															
9	bk108	Knorr, Stef	Creepy Cra	Horror	4.95	2000-12-01	An anthology of horror stories about roaches, centipedes, scorpions and other insects.															
10	bk109	Kress, Pete	Paradox Lc	Science Fic	6.95	2000-11-01	After an inadvertant trip through a Heisenberg Uncertainty Device, James Salway discovers the problems of being quantum.															
11	bk110	O'Brien, Ti	Microsoft .	Computer	36.95	2000-12-01	Microsoft's .NET initiative is explored in detail in this deep programmer's reference.															
12	bk111	O'Brien, Ti	MSXML3: /	Computer	36.95	2000-12-01	The Microsoft MSXML3 parser is covered in detail, with attention to XML DOM interfaces, XSLT processing, SAX and more.															
13	bk112	Galos, Mik	Visual Stuc	Computer	49.95	2001-04-11	Microsoft Visual Studio 7 is explored in depth, looking at how Visual Basic, Visual C++, C#, and ASP+ are integrated into a comprehensive development environme															
14																						
15																						

**GitHub profile link:**

<https://github.com/AREEBA-FAR00Q2001/IST>