

WSD Lab-3: Study and Design of XSD

Book.xsd

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema id="book"
  targetNamespace="http://tempuri.org/book.xsd"
  elementFormDefault="qualified"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
>
  <xs:element name="bookstore">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="book" maxOccurs="unbounded" >
          <xs:complexType>
            <xs:sequence>
              <xs:element name="title">
                <xs:complexType>
                  <xs:simpleContent>
                    <xs:extension
base="xs:string">
<xs:attribute name="lang" type="xs:string" use="required">
</xs:attribute>
</xs:extension>
</xs:simpleContent>
</xs:complexType>
</xs:element>
<xs:element name="author" >
  <xs:complexType>
    <xs:sequence>
      <xs:element
name="name" type="xs:string"></xs:element>
      <xs:element
name="bio" type="xs:string"></xs:element>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

```

                                <xs:element name="year"
type="xs:unsignedInt" ></xs:element>
                                <xs:element name="price"
type="xs:decimal"></xs:element>
                                </xs:sequence>
                                <xs:attribute name="category" type
="xs:string" use="required"/>
                                <xs:attribute name="availability" type
="xs:string" use="required"/>
                                </xs:complexType>
                                </xs:element>
                            </xs:sequence>
                        </xs:complexType>
                    </xs:element>
</xs:schema>

```

Book.xml

```

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

<bookstore xmlns="http://tempuri.org/book.xsd">
    <book category="cooking" availability="available">
        <title lang="en">Everyday Italian</title>
        <author>
            <name>Giada de LAurentiis</name>
            <bio>
                Giada de Laurentiis is an Italian-American chef,
writer, and

                television

                personality.
            </bio>
        </author>
        <year>2005</year>
        <price>30.00</price>
    </book>
    <book category="children" availability="available">
        <title lang="en">Harry Potter and the Sorcerer's Stone</title>
        <author>

```

```

        <name>J. K. Rowling</name>
        <bio>
            J.K. Rowling is a British author, best known for
writing the

            Harry Potter series.
        </bio>
    </author>
    <year>1997</year>
    <price>29.99</price>
</book>
<book category="fiction" availability="out of stock">
    <title lang="en">The Great Gatsby</title>
    <author>
        <name>F. Scott Fitzgerald</name>
        <bio>
            F. Scott Fitzgerald was an American novelist and
short story

            writer, known for his

            works on the Jazz Age.
        </bio>
    </author>
    <year>1925</year>

    <price>10.99</price>
</book>
<book category="science fiction" availability="available">
    <title lang="en">Dune</title>
    <author>
        <name>Frank Herbert</name>
        <bio>
            Frank Herbert was an American science fiction
author, best

            known for the Dune

            series.
        </bio>
    </author>
    <year>1965</year>
    <price>15.99</price>

```

```
</book>
<book category="mystery" availability="available">
  <title lang="en">The Girl with the Dragon Tattoo</title>
  <author>
    <name>Stieg Larsson</name>
    <bio>
```

Stieg Larsson was a Swedish journalist and author,
known for

the Millennium series.

```
  </bio>
</author>
<year>2005</year>
<price>19.99</price>
</book>
```

```
<book category="fantasy" availability="available">
  <title lang="en">The Hobbit</title>
  <author>
    <name>J.R.R. Tolkien</name>
    <bio>
```

J.R.R. Tolkien was an English writer and academic,
best known

for The Hobbit and

The Lord of the Rings.

```
  </bio>
</author>
<year>1937</year>
<price>14.99</price>
</book>
```

```
<book category="biography" availability="available">
  <title lang="en">Becoming</title>
  <author>
    <name>Michelle Obama</name>
    <bio>
```

Michelle Obama is an American attorney and author,
and the

former First Lady of the

United States.

```
</bio>
```

```
</author>
<year>2018</year>
<price>24.99</price>
</book>
```

```
<book category="self-help" availability="available">
  <title lang="en">The Power of Habit</title>
  <author>
```

```
    <name>Charles Duhigg</name>
```

```
    <bio>
```

Charles Duhigg is an American journalist and author, known for

his work on habits

and productivity.

```
  </bio>
```

```
</author>
```

```
<year>2012</year>
```

```
<price>16.99</price>
```

```
</book>
```

```
<book category="history" availability="available">
```

```
  <title lang="en">Sapiens: A Brief History of Humankind</title>
```

```
  <author>
```

```
    <name>Yuval Noah Harari</name>
```

```
    <bio>
```

Yuval Noah Harari is an Israeli historian and author, known

for his popular science books.

```
  </bio>
```

```
</author>
```

```
<year>2011</year>
```

```
<price>22.99</price>
```

```
</book>
```

```
<book category="romance" availability="available">
```

```
  <title lang="en">Pride and Prejudice</title>
```

```
  <author>
```

```
    <name>Jane Austen</name>
```

```
    <bio>
```

Jane Austen was an English novelist known for her six major

novels, which interpret

and critique the British landed gentry.

```
</bio>
</author>
<year>1813</year>
<price>12.99</price>
</book>
</bookstore>
```

Validations

XML data to validate

```
1 <?xml version="1.0" encoding="utf-8" ?>
2
3 <bookstore xmlns="http://tempuri.org/book.xsd">
4   <book category="cooking" availability="available">
5     <title lang="en">Everyday Italian</title>
6     <author>
7       <name>Giada de Laurentiis</name>
8       <bio>
9         Giada de Laurentiis is an Italian-American chef, writer, and
10
11         television
12
13         personality.

```

XML schema (XSD) data

```
1 <?xml version="1.0" encoding="utf-8" ?>
2 <xs:schema id="book"
3   targetNamespace="http://tempuri.org/book.xsd"
4   elementFormDefault="qualified"
5   xmlns:xs="http://www.w3.org/2001/XMLSchema"
6 >
7   <xs:element name="bookstore">
8     <xs:complexType>
9       <xs:sequence>
10         <xs:element name="book" maxOccurs="unbounded" >
11           <xs:complexType>
12             <xs:sequence>
13               <xs:element name="title">

```

Validate

Document Valid