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Lab: 3

=>Library.xml File

```
<?xml version="1.0" encoding="utf-8" ?>
library>
  <categories id="cat-1">
    <name>
      Fiction
    </name>
    <books>
      <book id="b-001">
         <title>1984</title>
         <bookAuthor id="A101">George Orwell/bookAuthor>
         <publication year="1949"/>
         <price currency="USD">9.99</price>
      </book>
      <book id="b-002">
         <title>To Kill a Mockingbird</title>
         <bookAuthor id="A102">Harper Lee/bookAuthor>
         <publication year="1960"/>
         <price currency="USD">7.99</price>
      </book>
    </books>
  </categories>
  <categories id="cat-2">
    <name>
      Science
    </name>
    <books>
      <book id="b-003">
         <title>A Brief History of Time</title>
         <bookAuthor id="A103">Stephen Hawking</bookAuthor>
```

```
<publication year="1988"/>
        <price currency="USD">15.00</price>
      </book>
    </books>
 </categories>
 <authors>
    <author id="A101">
      <authorName>George Orwell</authorName>
      <nationality>British</nationality>
    </author>
    <author id="A102">
      <authorName>Harper Lee</authorName>
      <nationality>American</nationality>
    </author>
    <author id="A103">
      <authorName>Stephen Hawking</authorName>
      <nationality>British</nationality>
    </author>
 </authors>
</library>
```

=>Library.xsd File

```
<?xml version="1.0" encoding="UTF-8" ?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
 <!-- Define the root element "library" -->
 <xs:element name="library">
    <xs:complexType>
      <xs:sequence>
        <!-- Define the "categories" element -->
        <xs:element name="categories" maxOccurs="unbounded">
           <xs:complexType>
             <xs:sequence>
               <xs:element name="name" type="xs:string"/>
               <xs:element name="books">
                  <xs:complexType>
                    <xs:sequence>
                      <xs:element name="book" maxOccurs="unbounded">
                        <xs:complexType>
```

```
<xs:element name="title" type="xs:string"/>
                     <xs:element name="bookAuthor">
                        <xs:complexType>
                          <xs:simpleContent>
                            <xs:extension base="xs:string">
                               <xs:attribute name="id" type="xs:string"</pre>
                                       use="required"/>
                            </xs:extension>
                          </xs:simpleContent>
                        </xs:complexType>
                     </xs:element>
                     <xs:element name="publication">
                        <xs:complexType>
                          <xs:attribute name="year" type="xs:int" use="required"/>
                        </xs:complexType>
                     </xs:element>
                     <xs:element name="price">
                        <xs:complexType>
                          <xs:simpleContent>
                            <xs:extension base="xs:decimal">
                               <xs:attribute name="currency" type="xs:string"</pre>
                                       use="required"/>
                            </xs:extension>
                          </xs:simpleContent>
                        </xs:complexType>
                     </xs:element>
                   </xs:sequence>
                   <xs:attribute name="id" type="xs:string" use="required"/>
                </xs:complexType>
              </xs:element>
            </xs:sequence>
         </xs:complexType>
       </xs:element>
    </xs:sequence>
    <xs:attribute name="id" type="xs:string" use="required"/>
  </xs:complexType>
</xs:element>
<!-- Define the "authors" element -->
<xs:element name="authors">
  <xs:complexType>
    <xs:sequence>
       <xs:element name="author" maxOccurs="unbounded">
         <xs:complexType>
```

<xs:sequence>

Validation Output:

Document Valid