U18CO018

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Assignment – 2 (ITA)

Topic – XML, DTD, XSD

1-> For the below XML file create a DTD and XSD file.

**XML**

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

<emails>

    <email>

        <to>Vimal</to>

        <from>Sonoo</from>

        <heading>Hello</heading>

        <body>Hello brother, how are you!</body>

    </email>

    <email>

        <to>Peter</to>

        <from>Jack</from>

        <heading>Birth day wish</heading>

        <body>Happy birth day Tom!</body>

    </email>

</emails>

**DTD**

<!ELEMENT emails (email)>

<!ELEMENT email (to,from,heading,body)>

<!ELEMENT to (#PCDATA)>

<!ELEMENT from (#PCDATA)>

<!ELEMENT heading (#PCDATA)>

<!ELEMENT body (#PCDATA)>

**XSD**

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

<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

    <xs:element name="emails">

    <xs:complexType>

    <xs:sequence>

        <xs:element name="email">

        <xs:complexType>

        <xs:sequence>

            <xs:element name="to" type="xs:string"/>

            <xs:element name="from" type="xs:string"/>

            <xs:element name="heading" type="xs:string"/>

            <xs:element name="body" type="xs:string"/>

        </xs:sequence>

        </xs:complexType>

        </xs:element>

    </xs:sequence>

    </xs:complexType>

    </xs:element>

</xs:schema>

2-> For the below XML file create a DTD and XSD file.

 In the example below the book category should be cooking, children or web and if not then by default it should be general.

 The book id should be unique.

 The user can enter at the max 100 books.

 The first letter of the author should be in capital.

 The year of publication shouldn’t be less than 1900.

**XML**

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

<bookstore>

    <book category="COOKING" id = “b1”>

        <title lang="en">Everyday Italian</title>

        <author>Giada De Laurentiis</author>

        <year>2005</year>

        <price>30.00</price>

    </book>

    <book category="CHILDREN" id= “b2”>

        <title lang="en">Harry Potter</title>

        <author>J K. Rowling</author>

        <year>2005</year>

        <price>29.99</price>

    </book>

    <book category="WEB " id = “b3”>

        <title lang="en">Learning XML</title>

        <author>Erik T. Ray</author>

        <year>2003</year>

        <price>39.95</price>

    </book>

</bookstore>

**DTD**

<!ELEMENT bookstore (book)>

<!ELEMENT book (title,author,year,price)>

<!ELEMENT title (#PCDATA)>

<!ELEMENT author (#PCDATA)>

<!ELEMENT year (#PCDATA)>

<!ELEMENT price (#PCDATA)>

**XSD**

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

<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

    <xs:element name="bookstore">

    <xs:complexType>

    <xs:sequence>

        <xs:element name="book" maxOccurs="100">

        <xs:complexType>

        <xs:sequence>

            <xs:element name="title">

            <xs:complexType>

            <xs:simpleContent>

                <xs:extension base="xs:string">

                    <xs:attribute name="lang" use="required" />

                </xs:extension>

            </xs:simpleContent>

            </xs:complexType>

            </xs:element>

            <xs:element name="author">

            <xs:simpleType>

                <xs:restriction base="xs:string">

                    <xs:pattern value="[A-Z].\*" />

                </xs:restriction>

            </xs:simpleType>

            </xs:element>

            <xs:element name="year">

            <xs:simpleType>

                <xs:restriction base="xs:integer">

                    <xs:minInclusive value="1900" />

                </xs:restriction>

            </xs:simpleType>

            </xs:element>

            <xs:element name="price" type="xs:float" />

        </xs:sequence>

            <xs:attribute default="GENERAL" name="category" type="cat" />

            <xs:attribute name="id" type="xs:ID" />

        </xs:complexType>

        </xs:element>

    </xs:sequence>

    </xs:complexType>

    </xs:element>

    <xs:simpleType name="cat">

        <xs:restriction base="xs:string">

            <xs:enumeration value="COOKING" />

            <xs:enumeration value="CHILDREN" />

            <xs:enumeration value="WEB" />

            <xs:enumeration value="GENERAL" />

        </xs:restriction>

    </xs:simpleType>

</xs:schema>