WSD Lab 05

XML Styling and Validating Documentation

Domain:

Online Food Delivery Website

XML content:

The xml file contains data related to dishes available in different restaurants that are accessible through the website. The food delivery website contains data like id, name, hours and reviews as well. Dish contains the name of the dish, description and price.

XSD validation:

An XML schema file has been created to validate the data entry. With the help of this file, the name of entities and the values provided for entities are cross-checked and errors are highlighted.

The element name has been defined as "fooddeliverywebsite-name" in the XSD file, but since it has been misspelled, it has raised an error.

The price has been limited between $0 and $7, so a price outside the range has been flagged as an invalid value.

The data type for price has been set as decimal, so when a value that is a string has been given, it is marked as an invalid data type, and it is also prompted for decimal data type.

For hours in the food delivery website, a condition has been given to check if it has values from Mon to Sun, but since there is a spelling mistake, an error has been raised.

XSL styling:

The given sheet is the html styling received after using "transform.xsl" to give a styling reference to the XML file. As seen, it is only a styling sheet, and does not validate data. This is why data that has been marked as errors in the editor still can be seen in the HTML page. The styling sheet provides a user-friendly representation of the XML data and makes it easy to view.

delivery.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
           targetNamespace="http://www.abc.com/restaurant"
           xmlns:rest="http://www.abc.com/restaurant"
           elementFormDefault="qualified">

    <xs:element name="restaurants" type="rest:restaurantsType"/>

    <xs:complexType name="restaurantsType">
        <xs:sequence>
            <xs:element name="restaurant" type="rest:restaurantType"
maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="restaurantType">
        <xs:sequence>
            <xs:element name="restaurant-id" type="xs:integer"/>
            <xs:element name="restaurant-name" type="xs:string"/>
            <xs:element name="hours" type="rest:hoursType"/>
            <xs:element name="menu" type="rest:menuType"/>
            <xs:element name="reviews" type="xs:string"/>
        </xs:sequence>
        <xs:attribute name="id" type="xs:string" use="required"/>
    </xs:complexType>

    <xs:simpleType name="hoursType">
        <xs:restriction base="xs:string">
            <xs:pattern value="(Mon|Tue|Wed|Thu|Fri|Sat|Sun)-
(Mon|Tue|Wed|Thu|Fri|Sat|Sun): [0-9]{1,2}(am|pm)-[0-9]{1,2}(am|pm)"/>
```

```
            </xs:restriction>
        </xs:simpleType>

        <xs:complexType name="menuType">
            <xs:sequence>
                <xs:element name="dish" maxOccurs="unbounded" type="rest:dishType"/>
            </xs:sequence>
        </xs:complexType>

        <xs:complexType name="dishType">
            <xs:sequence>
                <xs:element name="dish-name" type="xs:string"/>
                <xs:element name="description" type="xs:string"/>
                <xs:element name="price" type="rest:priceType"/>
            </xs:sequence>
            <xs:attribute name="id" type="xs:string" use="required"/>
        </xs:complexType>

        <xs:simpleType name="priceType">
            <xs:restriction base="xs:decimal">
                <xs:minInclusive value="0.00"/>
                <xs:maxInclusive value="100.00"/> <!-- Adjusted the max value -->
                <xs:fractionDigits value="2"/>
            </xs:restriction>
        </xs:simpleType>

</xs:schema>
```

transform.xsl

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet xmlns:xsl="http://www.w3.org/1999/XSL/Transform" version="1.0"
    xmlns:rest="www.tastytreats.com/fooddeliverywebsite"
    exclude-result-prefixes="rest">
    <xsl:output method="html" encoding="UTF-8" indent="yes"/>

    <!-- Root template -->
    <xsl:template match="/">
        <html>
            <head>
                <title>Food Delivery</title>
                <style>
                    table {
                        width: 100%;
                        border-collapse: collapse;
```

```
            }
            table, th, td {
                border: 1px solid black;
            }
            th, td {
                padding: 8px;
                text-align: left;
            }
            th {
                background-color: #f2f2f2;
            }
        </style>
    </head>
    <body>
        <h2>Menu</h2>
        <table>
            <tr>
                <th>ID</th>
                <th>Name</th>
                <th>Hours</th>
                <th>Dish</th>
                <th>Description</th>
                <th>Price</th>
                <th>Reviews</th>
            </tr>
            <!-- Loop through each restaurant -->
            <xsl:for-each
select="rest:fooddeliverywebsite/rest:restaurant">
                <xsl:variable name="restaurant-id" select="@id"/>
                <xsl:variable name="restaurant-name"
select="rest:restaurant-name"/>
                <xsl:variable name="hours" select="rest:hours"/>
                <xsl:variable name="reviews"
select="rest:reviews/rest:review"/>
                <xsl:for-each select="rest:menu/rest:dish">
                    <tr>
                        <td><xsl:value-of select="$restaurant-id"/></td>
                        <td><xsl:value-of select="$restaurant-
name"/></td>
                        <td><xsl:value-of select="$hours"/></td>
                        <td><xsl:value-of select="rest:dish-name"/></td>
                        <td><xsl:value-of
select="rest:description"/></td>
                        <td>$<xsl:value-of select="rest:price"/></td>
                        <td>
                            <!-- Loop through each review -->
```

```
                            <xsl:for-each select="$reviews">
                                <div><xsl:value-of select="."/></div>
                            </xsl:for-each>
                        </td>
                    </tr>
                </xsl:for-each>
            </xsl:for-each>
        </table>
    </body>
</html>
    </xsl:template>
</xsl:stylesheet>
```

OUTPUT:

Menu

ID	Name	Hours	Dish	Description	Price	Reviews
R1	Tasty Treats	Mon-Sun: 8am-10pm	Pizza	Creamy, cheesy pizza with fresh veggies.	$5.99	This restaurant is great! The food is delicious and the service is fast.
R1	Tasty Treats	Mon-Sun: 8am-10pm	Burgers	Bringing the burger game to a whole new level.	$6.99	This restaurant is great! The food is delicious and the service is fast.
R1	Tasty Treats	Mon-Sun: 8am-10pm	Pasta	Saucy pastas to satisfy your cravings.	$6.99	This restaurant is great! The food is delicious and the service is fast.
R1	Tasty Treats	Mon-Sun: 8am-10pm	Fries	Cream-loaded fries to just sit back and enjoy.	$6.99	This restaurant is great! The food is delicious and the service is fast.
R1	Tasty Treats	Mon-Sun: 8am-10pm	Momos	Sending you a virtual momos hug.	$5.99	This restaurant is great! The food is delicious and the service is fast.
R1	Tasty Treats	Mon-Sun: 8am-10pm	Sandwiches	Two beef patties, six strips of bacon, three slices of cheese, and a special sauce.	$7.99	This restaurant is great! The food is delicious and the service is fast.