Homework 4

ZE LIU (zl265 174007753)

Question 1:

1. DTD Description File:

<!DOCTYPE ProductsNote[

<!ELEMENT ProductsNote (products\*)>

<!ELEMENT products (name, price, description, store\*)>

<!ELEMENT name (#PCDATA)>

<!ELEMENT price (#PCDATA)>

<!ELEMENT description (#PCDATA)>

<!ELEMENT store (name, phone, markup)>

<!ELEMENT name (#PCDATA)>

<!ELEMENT phone (#PCDATA)>

<!ELEMENT markup (#PCDATA)>

]>

1. XQuery Expression:

FOR $a IN document("db.xml") /db/products

$c IN document("db.xml") /db/sells

RETURN <products>

{$a/row/name,

$a/row/price,

$a/row/description,

FOR $b IN /db/stores[/row/sid = $c/row/sid and $c/row/pid = $a/row/pid]

RETURN $b/row/name,

$b/row/phone,

$b/row/makeup,

}

</products>

1. XQuery Expression:

FOR $a IN document("db.xml") /db/products

$c IN document("db.xml") /db/sells

WHERE $a/row/pid = $c/row/pid and $c/row/makeup > 25%

RETURN <result>

{$a/row/name,

$a/row/price,

}

</result>

1. SQL Expression:

SELECT P.name, P.price

FROM products P, sells S

WHERE P.pid = S.sid AND S.Markup > '25%'

Question 2:

1. XQuery Expression:

FOR $a IN document(“broadway.xml”)/broadway/title

RETURN <result>

{$a}

</result>

1. XQuery Expression:

FOR $a IN document(“broadway.xml”)/broadway/theater[date = “11/9/2018”]

WHERE $a/price < 35

RETURN <result>

{$a/title, $a/address}

</result>

1. XQuery Expression:

FOR $a IN document("broadway.xml")/broadway/concert[type = “chamber orchestra”]

WHERE avg($a/price) >= 50

RETURN <result>

{$x/title}

</result>

1. XQuery Expression:

FOR $a IN document("groupedByDate.xml")/groupedByDate/day

ORDER BY $a/title

RETURN <date>{$a/date}</date>

<title>{$a/show/title}</title>

<price>{$a/show/price}</price>

Question 3

1. We first need to modify the XSL file and then change all the <author> elements in xml into the form:

<author>

<firstName>xxx</firstName >

<lastName>xxx</lastName>

</author>

**The XSL Code**

<?xml version="1.0"?>

<xsl:stylesheet xmlns:xsl="http://www.w3.org/TR/WD-xsl"

result-ns="http://www.w3.org/TR/REC-html">

<xsl:template match="/">

<html>

<head>

<title>Bibliography</title>

</head>

<body background="antiquewhite">

<center><h2>Bibliography</h2><hr width="90%"/></center>

<ul>

<xsl:for-each select="bib/book">

<p/><li>

<xsl:value-of select="author/firstName”>,

<xsl:value-of select="author/lastName”>,

<b><xsl:value-of select="title"/></b>,

<xsl:value-of select="publisher"/>

<xsl:value-of select="year"/>.

</li>

</xsl:for-each>

<xsl:for-each select="bib/article">

<p/><li>

<xsl:value-of select="author/firstName”>,

<xsl:value-of select="author/lastName”>,

<b><xsl:value-of select="title"/></b>,

<em><xsl:value-of select="journal"/></em>,

<xsl:value-of select="volume"/>,

pages<xsl:apply-templates select="page"/>

<xsl:value-of select="year"/>.

</li>

</xsl:for-each>

</ul>

</body>

</html>

</xsl:template>

<xsl:template match="page">

<xsl:value-of select="from"/>-<xsl:value-of select="to"/>,

</xsl:template>

</xsl:stylesheet>

**The XML code**

<?xml version="1.0" encoding="ISO-8859-1"?>

<?xml-stylesheet type="text/xsl" href="bid.xsl"?>

<!DOCTYPE bib SYSTEM "bid.dtd">

<bid>

<book>

<author>

<firstName >Leslie</firstName >

<lastName>Lamport</lastName>

</author>

<title>Latex: A Document Presentation System</title>

<year>1986</year>

<publisher>Addison-Wesley</publisher>

</book>

<article>

<author>

<firstName>David</firstName>

<lastName>Marr</lastName>

</author>

<title>Visual information processing</title>

<year>1980</year>

<volume>290</volume>

<page>

<from>199</from>

<to>218</to>

</page>

<journal>Phil. Trans. Roy, Soc. B</journal>

</article>

<article>

<author>

<firstName>R.K</firstName>

<lastName>Clifton</lastName>

</author>

<title>Breakdown of echo suppression in the precedence effect</title>

<year>1987</year>

<volume>82</volume>

<page>

<from>1834</from>

<to>1835</to>

</page>

<journal>J. Acoust. Soc. Am.</journal>

</article>

<book>

<author>

<firstName>David</firstName>

<lastName>Marr</lastName>

</author>

<title>Vision</title>

<year>1982</year>

<address>NY</address>

<publisher>Freeman</publisher>

</book>

<article>

<author>

<firstName>David</firstName>

<lastName>Marr</lastName>

</author>

<title>Visual information processing</title>

<year>1980</year>

<volume>290</volume>

<page>

<from>199</from>

<to>218</to>

</page>

<journal>Phil. Trans. Roy, Soc. B</journal>

</article>

</bid>

(2)

I addad two books and two journals to the XML fine. And the first book and the first article miss some information.

insert node element book{

<author>

<firstName>Louis</firstName>

<lastName>Liu</lastName>

</author>

<title>To be or not to be</title>

<year>2018</year>

} into document("bid.xml")/bid

insert node element article{

<author>

<firstName>Jay</firstName>

<lastName>Liu</lastName>

</author>

<title>Web Application</title>

<volume>204</volume>

<page>

<from>129</from>

<to>329</to>

</page>

<journal>IEEE</journal>

} into document("bid.xml")/bid

insert node element article{

<author>

<firstName>Bob</firstName>

<lastName>Jesey</lastName>

</author>

<title> Software Engineering</title>

<year>2018</year>

<volume>9</volume>

<page>

<from>2</from>

<to>7</to>

</page>

<journal> Proceedings of the National Conference on Artificial Intelligence </journal>

} into document("bid.xml")/bid

insert node element book{

<author>

<firstName>Alan</firstName>

<lastName>Liu</lastName>

</author>

<title>People Life </title>

<year>2018</year>

<address> Golf Links </address>

<publisher>Xinhua Publisher </publisher>

} into document("bid.xml")/bid

(3)

I add the following code to corresponding file:

**For XSL:**

<ul>

<xsl:for-each select="bib/phdThesis ">

<p/><li>

<xsl:value-of select="author/firstName”>,

<xsl:value-of select="author/lastName”>,

<xsl:value-of select="year"/>,

<b><xsl:value-of select="title"/></b>,

<xsl:value-of select="university"/>.

</li>

</xsl:for-each>

</ul>

**For DTD, add the code into DTD file**

<!ELEMENT phdThesis(author, year, title, university)>

<!ELEMENT university(#PCDATA)>

**For xml, add the following two items.**

insert element phdThesis{

<author>

<firstName>Wang</firstName>

<lastName>Xiao</lastName>

</author>

<year>2018</year>

<title>Control Theory</title>

<university >UESTC</university >

} into document("bid.xml")/bid

insert element phdThesis{

<author>

<firstName>Li</firstName>

<lastName>Xiao</lastName>

</author>

<year>2017</year>

<title>Optimized Theory</title>

<university >Qinghua</university >

} into document("bid.xml")/bid