Mid Term

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Ques 1: What is XSL. Why we use it?

Ans:

XSL (Extensible Stylesheet Language) is a styling language for XML.

An XSL document specifies how will the browser renders an XML document.

The Main parts of the XSL documents are –

**XSLT:**

It is a language for transforming XML documents into various other types of documents.

**XPath:**

It is a language which is used to navigate within the XML documents.

**XQuery:**

It is a language which is used for querying among XML documents.

**XSL-FO:**

It is a language for formatting XML documents.

Use of XSL:

XSL functions allows the creation of user-defined stylesheet **function** that **can** be called from any **XPath** expression within the stylesheet in which the **function** is defined.

In XSL, the formatting object tree can be radically different from the source tree, and inheritance of formatting properties is on the formatting object tree.

Ref - <https://www.w3.org/Style/XSL/WhatIsXSL.html/>

Ref - <https://www.google.com/search?sxsrf=ALeKk03gLIUX6k9_3pCRx2FYvbhB48qcYA%3A1609908178308&ei=0j_1X9iUEoGw5NoP-OK_-Ak&q=what+is+use+of+XSL+and+XSLT&oq=what+is+use+of+XSL+and+XSLT&gs_lcp=CgZwc3ktYWIQAzoECCMQJzoFCAAQkQI6CAgAELEDEIMBOgsILhCxAxDHARCjAjoFCAAQsQM6AggAOggIABDJAxCRAjoECAAQQzoHCAAQFBCHAjoKCAAQyQMQFBCHAjoFCAAQyQM6BggAEBYQHjoJCAAQyQMQFhAeOggIIRAWEB0QHlDKkhdYuNkXYOrbF2gBcAF4AIABxAKIAdkXkgEJMTIuMTUuMC4xmAEAoAEBqgEHZ3dzLXdpesABAQ&sclient=psy-ab&ved=0ahUKEwjYxdqov4buAhUBGFkFHXjxD58Q4dUDCA0&uact=5>

Ques 2: What is XML?

Sol:

XML (Extensible Markup Language) is a structured document format defining text encoding rules.

XML stands for **E**xtensible **M**arkup **L**anguage. It is a text-based markup language derived from Standard Generalized Markup Language (SGML).

Some of the Characteristics of XML are:

* **XML is extensible** − XML allows us in creating our own self-descriptive tags, or language, which can be utilized in any kind of application.
* **Data Carrier** − XML allows us to save the data irrespective of how the data is going to be presented.
* **Standardized Approach** − XML was developed by an organization called the World Wide Web Consortium (W3C) and is available as an open standard.

Some of the uses of XML are:

* XML can work behind the scenes to simplify the creation of HTML documents for large web sites.
* XML can be used to exchange the information between organizations and systems.

Ref - <https://www.tutorialspoint.com/xml/xml_overview.htm>

Ques 3: Compare JSON and XML:

|  |  |
| --- | --- |
| **XML** | **JSON** |
| XML data is type less | JSON object has a type |
| XML support various data types such as number, text, images, charts, graphs, etc. It also provides options for transferring the structure or format of the data with actual data. | JSON supports only text and number data type. |
| It supports various encoding. | It supports only UTF-8 encoding. |
| XML offers the capability to display data because it is a markup language. | JSON has no display capabilities |
| XML data needs to be parsed. | Data is readily accessible as JSON objects |

Ref - <https://www.guru99.com/json-vs-xml-difference.html>

Ques 4: Give two examples of each JSON and XML.

Json:

Eg-1:

{

"employee": {

"Emp\_name": "John",

"salary": 56000,

"age": 23.

}

}

Eg-2:

{

"Student": {

"Student\_name": "Amar",

"class": 3,

"sex": “male”,

“course”: “Networking”

}

}

XML Examples:

Eg1:

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

<food>  
    <name>Chicken</name>  
    <price>11</price>  
    <description>  
   Butter Chicken   </description>  
</food>

<food>  
<name>Burger</name>  
    <price>15</price>  
    <description>  
   Extra Cheese Special   </description>  
  
</food>  
<food>  
    <name>Pizza</name>  
    <price>28</price>  
    <description>  
   Extra Large with 5 toppings   </description>  
</food>  
  
</menu>

Eg2:

<?xml version="1.0" encoding="UTF-8"?>  
<mail>  
  <to>Abc</to>  
  <from>DEF</from>  
  <cc>Mr. HH</cc>  
  <body>Please find documents </body>  
</mail>

Ref - <https://www.w3schools.com/xml/>

Ques 5: Is XML outdated? If yes, then what else industry prefers and why?

Sol:

XML might be an older technology than JSON, but it is still not in urge of being outdated soon as many industries and technologies are still very much dependent on this format for data.

XML is now commonly found as part of UI development processes in spaces such as Android, JavaFX, UPF and Xmarin.

It is also extensively used in Magneto, in addition to Microsoft based programs such as Word, Excel, and PowerPoint.

Being a markup language, XML settles on the ideal stage rationalist decision with regards to showing and styling information. It comes prepared and preformatted to the necessities of the program and application burning-through it. The purpose of markup dialects is that it gives the information structure, with the capacity to make snares and interfaces for different dialects to work with

Ref - <https://blog.codota.com/json-vs-xml/#:~:text=XML%20still%20lives%20today%2C%20mainly,where%20UI%20development%20is%20required>.

Ques 6:

Midterm.xml

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

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

    <catalog>

   <book id="bk101">

      <author>Gambardella, Matthew</author>

      <title>XML Developer's Guide</title>

      <genre>Computer</genre>

      <price>44.95</price>

      <publish\_date>2000-10-01</publish\_date>

      <description>An in-depth look at creating applications

      with XML.</description>

   </book>

   <book id="bk102">

      <author>Ralls, Kim</author>

      <title>Midnight Rain</title>

      <genre>Fantasy</genre>

      <price>5.95</price>

      <publish\_date>2000-12-16</publish\_date>

      <description>A former architect battles corporate zombies,

      an evil sorceress, and her own childhood to become queen

      of the world.</description>

   </book>

   <book id="bk103">

      <author>Corets, Eva</author>

      <title>Maeve Ascendant</title>

      <genre>Fantasy</genre>

      <price>5.95</price>

      <publish\_date>2000-11-17</publish\_date>

      <description>After the collapse of a nanotechnology

      society in England, the young survivors lay the

      foundation for a new society.</description>

   </book>

   <book id="bk104">

      <author>Corets, Eva</author>

      <title>Oberon's Legacy</title>

      <genre>Fantasy</genre>

      <price>5.95</price>

      <publish\_date>2001-03-10</publish\_date>

      <description>In post-apocalypse England, the mysterious

      agent known only as Oberon helps to create a new life

      for the inhabitants of London. Sequel to Maeve

      Ascendant.</description>

   </book>

   <book id="bk105">

      <author>Corets, Eva</author>

      <title>The Sundered Grail</title>

      <genre>Fantasy</genre>

      <price>5.95</price>

      <publish\_date>2001-09-10</publish\_date>

      <description>The two daughters of Maeve, half-sisters,

      battle one another for control of England. Sequel to

      Oberon's Legacy.</description>

   </book>

   <book id="bk106">

      <author>Randall, Cynthia</author>

      <title>Lover Birds</title>

      <genre>Romance</genre>

      <price>4.95</price>

      <publish\_date>2000-09-02</publish\_date>

      <description>When Carla meets Paul at an ornithology

      conference, tempers fly as feathers get ruffled.</description>

   </book>

   <book id="bk107">

      <author>Thurman, Paula</author>

      <title>Splish Splash</title>

      <genre>Romance</genre>

      <price>4.95</price>

      <publish\_date>2000-11-02</publish\_date>

      <description>A deep sea diver finds true love twenty

      thousand leagues beneath the sea.</description>

   </book>

   <book id="bk108">

      <author>Knorr, Stefan</author>

      <title>Creepy Crawlies</title>

      <genre>Horror</genre>

      <price>4.95</price>

      <publish\_date>2000-12-06</publish\_date>

      <description>An anthology of horror stories about roaches,

      centipedes, scorpions  and other insects.</description>

   </book>

   <book id="bk109">

      <author>Kress, Peter</author>

      <title>Paradox Lost</title>

      <genre>Science Fiction</genre>

      <price>6.95</price>

      <publish\_date>2000-11-02</publish\_date>

      <description>After an inadvertant trip through a Heisenberg

      Uncertainty Device, James Salway discovers the problems

      of being quantum.</description>

   </book>

   <book id="bk110">

      <author>O'Brien, Tim</author>

      <title>Microsoft .NET: The Programming Bible</title>

      <genre>Computer</genre>

      <price>36.95</price>

      <publish\_date>2000-12-09</publish\_date>

      <description>Microsoft's .NET initiative is explored in

      detail in this deep programmer's reference.</description>

   </book>

   <book id="bk111">

      <author>O'Brien, Tim</author>

      <title>MSXML3: A Comprehensive Guide</title>

      <genre>Computer</genre>

      <price>36.95</price>

      <publish\_date>2000-12-01</publish\_date>

      <description>The Microsoft MSXML3 parser is covered in

      detail, with attention to XML DOM interfaces, XSLT processing,

      SAX and more.</description>

   </book>

   <book id="bk112">

      <author>Galos, Mike</author>

      <title>Visual Studio 7: A Comprehensive Guide</title>

      <genre>Computer</genre>

      <price>49.95</price>

      <publish\_date>2001-04-16</publish\_date>

      <description>Microsoft Visual Studio 7 is explored in depth,

      looking at how Visual Basic, Visual C++, C#, and ASP+ are

      integrated into a comprehensive development

      environment.</description>

   </book>

    </catalog>

Midterm.xsl

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

<xsl:stylesheet version="1.0"

     xmlns:xsl="http://www.w3.org/1999/XSL/Transform">

   <xsl:template match="/">

      <html>

         <head>

            <title>Title of the page</title>

            <STYLE>

                    #heading{

                            background-color: lightgreen;

                    }

        </STYLE>

         </head>

         <body>

       <table border="1">

         <tr id='heading'>

          <th> AUTHOR</th>

          <th> TITLE</th>

          <th> GENRE</th>

          <th> PRICE</th>

          <th> PUBLISH DATE</th>

           </tr>

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

          <tr>

            <td><xsl:value-of select="author"/> </td>

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

            <td><xsl:value-of select="genre"/> </td>

            <td><xsl:value-of select="price"/> </td>

            <td><xsl:value-of select="publish\_date"/> </td>

          </tr>

          </xsl:for-each>

       </table>

         </body>

      </html>

   </xsl:template>

</xsl:stylesheet>

Output:

