

CSC343 Worksheet 11 Solution

June 30, 2020

```
1. a) 1 <? xml version = "1.0" encoding = "utf-8"?>
      2 <xsl:stylesheet xmlns:xsl = "http://www.w3.org/1999/ISL/Transform
      3 ">
      4   <xsl:template match = "/">
      5     <html>
      6       <BODY>
      7         <H1>Manufacturerers</h1>
      8         <OL>
      9           <xsl:for-each select="Products/Maker">
          10             <Li><xsl:value-of select="@name"/></li>
          11           </xsl:for-each>
          12         </ol>
          13       </body>
          14     </html>
          15   </xsl:template>
          16 </xsl:stylesheet>
```

Notes:

- XLST
 - Also means **Extensible Stylesheet Language for Transformation**
 - Allows to transform XML documents into HTML
 - Is another language
- XLST Basics

Syntax:

```
<? xml version = "1.0" encoding = "utf-8"?>
<xsl:stylesheet xmlns:xsl = "http://www.w3.org/1999/ISL/Transform">
...
</xsl:stylesheet>
```

- Templates

Example:

```

1  <? xml version = "1.0" encoding = "utf-8"?>
2  <xsl:stylesheet xmlns:xsl = "http://www.w3.org/1999/XSL/Transform">
3      <xsl:template match = "/">
4          <HTML>
5              <BODY>
6                  <B>This is text</b>
7              </body>
8          </html>
9      </xsl:template>
10 </xsl:stylesheet>
11

```

- Obtaining values from XML Data

- value-of

- * Is used to extract the value of a selected node.

- * **Syntax:** <xsl value-of select = "*expression*" />

Example:

```

1  <? xml version = "1.0" encoding = "utf-8"?>
2  <xsl:stylesheet xmlns:xsl = "http://www.w3.org/1999/XSL/Transform">
3      <xsl:template match="/Movies/Movie">
4          <xsl:value-of select = "@title"/>
5      </xsl:template>
6  </xsl:stylesheet>
7

```

- Apply-templates

- * applies a <xsl:template> to the current element or to the current element's child nodes.

- select='.' means choose the current value

```

<?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>
<body>
<h2>My CD Collection</h2>
<xsl:apply-templates/>
</body>
</html>
</xsl:template>

<xsl:template match="cd">
<p>
<xsl:apply-templates select="title"/>
<xsl:apply-templates select="artist"/>
</p>
</xsl:template>

<xsl:template match="title">
Title: <span style="color:#ff0000">
<xsl:value-of select="."/;></span>
<br />
</xsl:template>

<xsl:template match="artist">
Artist: <span style="color:#00ff00">
<xsl:value-of select="."/;></span>
<br />
</xsl:template>

</xsl:stylesheet>

```

My CD Collection

```

Title: Empire Burlesque
Artist: Bob Dylan

Title: Hide your heart
Artist: Bonnie Tyler

Title: Greatest Hits
Artist: Dolly Parton

Title: Still got the blues
Artist: Gary Moore

Title: Eros
Artist: Eros Ramazzotti

Title: One night only
Artist: Bee Gees

Title: Sylvias Mother
Artist: Dr.Hook

Title: Maggie May
Artist: Rod Stewart

Title: Romanza
Artist: Andrea Bocelli

Title: When a man loves a woman
Artist: Percy Sledge

Title: Black angel
Artist: Savage Rose

Title: 1999 Grammy Nominees
Artist: Many

Title: For the good times
Artist: Kenny Rogers

```

- For-loop in XSLT


- * **Syntax:** <xsl:for-each select = "*expression*" > ... </xsl:for-each>

* Is easier to maintain and read than apply templates ^[1]

```

1)  <? xml version = "1.0" encoding = "utf-8" ?>
2)  <xsl:stylesheet xmlns:xsl =
3)      "http://www.w3.org/1999/XSL/Transform">
4)      <xsl:template match = "/">
5)          <OL>
6)              <xsl:for-each select = "Stars/Star" />
7)                  <LI>
8)                      <xsl:value-of select = "Name">
9)                  </li>
10)             </xsl:for-each>
11)             </ol><p><ol>
12)             <xsl:for-each select = "Stars/Star/Address" />
13)                 <LI>
14)                     <xsl:value-of select = "City">
15)                 </li>
16)             </xsl:for-each>
17)             </ol>
18)         </xsl:template>
19)     </xsl:stylesheet>

```



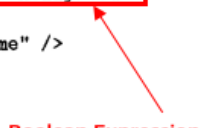
References:

- 1) StackOverflow, differences between for-each and templates in xsl?, link
- If condition in XSLT
 - **Syntax:** <xsl:if test = "*boolean expression*">

```

1)  <? xml version = "1.0" encoding = "utf-8" ?>
2)  <xsl:stylesheet xmlns:xsl =
3)      "http://www.w3.org/1999/XSL/Transform">
4)      <xsl:template match = "/">
5)          <TABLE border = "5"><TR><TH>Stars</th></tr>
6)          <xsl:for-each select = "Stars/Star" />
7)              <xsl:if test = "Address/City = 'Hollywood'">
8)                  <TR><TD>
9)                      <xsl:value-of select = "Name" />
10)                 </td></tr>
11)             </xsl:if>
12)         </xsl:for-each>
13)     </table>
14) </xsl:template>
15) </xsl:stylesheet>

```



```

b)  <? xml version = "1.0" encoding = "utf-8"?>
2  <xsl:stylesheet xmlns:xsl = "http://www.w3.org/1999/XSL/Transform
">
3      <xsl:template match = "/">
4          <html>
5              <BODY>
6                  <TABLE>
7                      <TH>
8                          <TD>Model</td>
9                          <TD>Price</td>
10                     </th>
11                     <xsl:for-each select="Products/Maker">
12                         <TR>
13                             <TD>
14                                 <xsl:value-of select="@model"/>
15                             </td>

```

```

16         <TD>
17             <xsl:value-of select="@price"/>
18         </td>
19     </tr>
20 </xsl:for-each>
21 </table>
22 </body>
23 </html>
24 </xsl:template>
25 </xsl:stylesheet>
26

```

c)

```

1  <? xml version = "1.0" encoding = "utf-8"?>
2  <xsl:stylesheet xmlns:xsl = "http://www.w3.org/1999/ISL/Transform
  ">
3      <xsl:template match = "/">
4          <html>
5              <BODY>
6                  <TABLE>
7                      <TH>
8                          <TD>Model</td>
9                          <TD>Price</td>
10                         <TD>Speed</td>
11                         <TD>RAM</td>
12                     </th>
13                     <xsl:for-each select="Products/Maker/Laptop">
14                         <TR>
15                             <TD><xsl:value-of select="@model"/></td>
16                             <TD><xsl:value-of select="@price"/></td>
17                             <TD><xsl:value-of select="Speed"/></td>
18                             <TD><xsl:value-of select="RAM"/></td>
19                         </tr>
20                     </xsl:for-each>
21                 </table>
22
23                 <TABLE>
24                     <TH>
25                         <TD>Model</td>
26                         <TD>Price</td>
27                         <TD>Speed</td>
28                         <TD>RAM</td>
29                     </th>
30                     <xsl:for-each select="Products/Maker/PC">
31                         <TR>
32                             <TD><xsl:value-of select="@model"/></td>
33                             <TD><xsl:value-of select="@price"/></td>
34                             <TD><xsl:value-of select="Speed"/></td>
35                             <TD><xsl:value-of select="RAM"/></td>
36                         </tr>
37                     </xsl:for-each>
38                 </table>
39             </body>
40         </html>
41

```

```

42     </xsl:template>
43 </xsl:stylesheet>
44

```

```

d) <? xml version = "1.0" encoding = "utf-8"?>
2  <xsl:stylesheet xmlns:xsl = "http://www.w3.org/1999/ISL/Transform
">
3      <xsl:template match = "/">
4          <html>
5              <BODY>
6                  <FORM method="POST" action="...">
7                      <xsl:for-each select="PCs/PC">
8                          <DIV style="margin-bottom:1em">
9                              <DIV>
10                                 <LABEL>Model</label>
11                                 <INPUT type="text">
12                                     <xsl:attribute name="value">
13                                         <xsl:value-of select="@model"
/>
14                                     </xsl:attribute>
15                                 </input>
16                             </div>
17
18                             <DIV>
19                                 <LABEL>Price</label>
20                                 <INPUT type="text">
21                                     <xsl:attribute name="value">
22                                         <xsl:value-of select="Price"
/>
23                                     </xsl:attribute>
24                                 </input>
25                             </div>
26
27                             <DIV>
28                                 <LABEL>Speed</label>
29                                 <INPUT type="text">
30                                     <xsl:attribute name="value">
31                                         <xsl:value-of select="Speed"
/>
32                                     </xsl:attribute>
33                                 </input>
34                             </div>
35
36                             <DIV>
37                                 <LABEL>RAM</label>
38                                 <INPUT type="text">
39                                     <xsl:attribute name="value">
40                                         <xsl:value-of select="RAM" />
41                                     </xsl:attribute>
42                                 </input>
43                             </div>
44                         </div>
45                     </xsl:for-each>
46

```

```

47         <input type="submit" value="Submit" />
48     </form>
49 </body>
50 </html>
51 </xsl:template>
52 </xsl:stylesheet>
53

```

2. a)

```

1  <? xml version = "1.0" encoding = "utf-8"?>
2  <xsl:stylesheet xmlns:xsl = "http://www.w3.org/1999/ISL/Transform
3  ">
4      <xsl:template match = "/">
5          <html>
6              <BODY>
7                  <TABLE>
8                      <TH>
9                          <TD>Name</td>
10                         <TD>Launched</td>
11                     </th>
12                     <xsl:for-each select="Ships/Class/Ship">
13                         <TR>
14                             <TD>
15                                 <xsl:value-of select="@name"/>
16                             </td>
17                             <TD>
18                                 <xsl:value-of select="@launched"/>
19                             </td>
20                         </tr>
21                     </xsl:for-each>
22                 </table>
23             </body>
24         </html>
25     </xsl:template>
26 </xsl:stylesheet>

```

b)

```

1  <? xml version = "1.0" encoding = "utf-8"?>
2  <xsl:stylesheet xmlns:xsl = "http://www.w3.org/1999/ISL/Transform
3  ">
4      <xsl:template match = "/">
5          <html>
6              <BODY>
7                  <Losers>
8                      <xsl:for-each select="Ships/Class/Ship">
9                          <xsl:if test="Battle/@outcome = 'sunk'">
10                             <Ship>
11                                 <xsl:value-of select="@name"/>
12                             </ship>
13                         </xsl:if>
14                     </xsl:for-each>
15                 </Losers>
16             </body>
17         </html>

```

```

17     </xsl:template>
18 </xsl:stylesheet>
19

```

c)

```

2  <? xml version = "1.0" encoding = "utf-8"?>
3  <xsl:stylesheet xmlns:xsl = "http://www.w3.org/1999/ISL/Transform
4  ">
5      <xsl:template match = "/">
6          <Ships>
7              <xsl:for-each select="Ships/Class">
8                  <Ship
9                      name="
10                     <xsl:value-of select="Ship/@name"/>
11                     "
12                     class="
13                     <xsl:value-of select="Ship/@class"/>
14                     "
15                     country="
16                     <xsl:value-of select="@country">
17                     "
18                     numGuns="
19                     <xsl:value-of select="@numGuns">
20                     "
21                 />
22             </xsl:for-each>
23         </Ships>
24     </xsl:template>
25 </xsl:stylesheet>
26
27

```

d)

```

2  <? xml version = "1.0" encoding = "utf-8"?>
3  <xsl:stylesheet xmlns:xsl = "http://www.w3.org/1999/ISL/Transform
4  ">
5      <xsl:template match = "/">
6          <Ships>
7              <xsl:for-each select="Ships/Class">
8                  <xsl: if test="count(Ship/Battle) > 0">
9                      <Ship
10                          name="
11                         <xsl:value-of select="Ship/@name"/>
12                         "
13                         class="
14                         <xsl:value-of select="Ship/@class"/>
15                         "
16                         country="
17                         <xsl:value-of select="@country">
18                         "
19                         numGuns="
20

```

```
21         <xsl:value-of select="@numGuns">  
22         "  
23         />  
24     </xsl:if>  
25 </xsl:for-each>  
26 </Ships>  
27 </xsl:template>  
28 </xsl:stylesheet>  
29
```

```
e) <? xml version = "1.0" encoding = "utf-8"?>  
2 <xsl:stylesheet xmlns:xsl = "http://www.w3.org/1999/ISL/Transform  
">  
3     <xsl:template match = "/Ships/Class/Ship/Battle">  
4         <Battle name="<xsl:value-of select='.'/>" outcome="<  
xsl:value-of select='@outcome' />" />  
5     </xsl:template>  
6 </xsl:stylesheet>  
7
```