

Assignment 2: XSLT

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1 Introduction

XSLT (Extensible Stylesheet Language Transformations) is a language that allows transforming XML document into other document extension, for this an excerpt from DBLP dataset has been used to generate several HTML files that corresponds to each author, such that each file has some specific characteristics related to the author, in this report a detailed description of the implementations and hypothesis as well as the process that has been followed to generate the intended files.

2 Hypothesis and implementations

Initially in order to implement the person's publication grouped by year, `group-by` has been used as follow :

```
<xsl:template match="dblp">
  <xsl:for-each-group select="*" group-by="author">
    <xsl:variable name="title" select="current-grouping-key()"></xsl:variable>
```

Moreover, in order to assign a link to each author, where the link is composed of the first letter of the last name as and the `html` file, the last name is concatenation of the lastname initially and the first name in second place. to achieve this the following has been implemented :

```
<xsl:variable name="firstName" select="substring-before($title,' ')">
</xsl:variable>
<xsl:variable name="lastName" select="substring-after($title,' ')">
</xsl:variable>
<xsl:variable name="letter" select="substring($lastName,1,1)">
</xsl:variable>
<xsl:result-document href="a-tree/{letter}/{lastName}.{firstName}.html">
```

`$title` refers to the author full name mentioned in the DBLP excerpts.

Now that different sections are grouped by year, in order to obtain publications and authors accordingly; another grouping has been performed on the publication title, as follow

```
<xsl:for-each-group select="current-group()" group-by="title">
```

In order to obtain the authors for each for each book title, additional grouping have been added as follow :

```
<xsl:for-each-group select="current-group()" group-by="author">
```

Note that the href generation for each group has been generated similarly, however a specific template has been dedicated to it (entitled link) and called in both tables(author and coauthors), . In order to enumerate in descending way the each row : a variable \$c has been generated in the beginning of the section regarding the title grouping, which count the number of publications and then on each row \$c- position() has been, the following excerpt illustrate that:

```
<xsl:variable name="c" select="last()+1"></xsl:variable>
<xsl:variable name="n" select="$c - position()"></xsl:variable>
.....
```

Another point to consider, is the sorting which simply relied on xsl:sort as follows :

```
<xsl:sort select="current-grouping-key()"></xsl:sort>
```

Furthermore, the link to the books enumeration, is simply characterised by the book name:

```
<a>
  <xsl:attribute name="name">
    <xsl:value-of select="title"></xsl:value-of>
  </xsl:attribute>
  <xsl:value-of select="$n"></xsl:value-of>
</a>
```

For the generation of the second group regarding the second table a similar mechanism has been implemented, thus the following is obtained:

```
<h2> Coauthors</h2>
<table>
  <xsl:for-each-group select="current-group()" group-by="title">
    <xsl:sort select="author"></xsl:sort>
    <xsl:variable name="c" select="last()+1"></xsl:variable>
    <xsl:variable name="n" select="$c - position()"></xsl:variable>
    <xsl:for-each-group select="current-group()" group-by="author">
      <tr>
        <td>
          <xsl:call-template name="link">
            <xsl:with-param name="authorParam" select="current-grouping-key()">
          </xsl:with-param>
          <xsl:with-param name="title" select="$title"></xsl:with-param>
```

```

</xsl:call-template>
</td>
<td>
[<a>
  <xsl:attribute name="href">
<xsl:value-of select="concat(' ',current-grouping-key())"></xsl:value-of>
</xsl:attribute>
  <xsl:value-of select="$n"></xsl:value-of>
</a>]
</td>
</tr>
</xsl:for-each-group>
</xsl:for-each-group>
</table>

```

The template entitled `link` reflect the template that refers the generation of the link for each author accordingly.