

Due on: Tuesday 20.06.2006 (in lecture (only definition type questions) & via email (coding type questions))

Exercise 3.1

- a) [2 points] Use sales.xml (available online), replace each `s` element with the element `score`, with XSLT.
- b) [2 points] Output and emphasize (marked up with `<em>`) each country in HTML format, with XSLT.
- c) [3 points] For the `country` elements, replace its `name` attributes with `place` attributes, and change the values for the attributes from `Germany`, `France` and `Italy` to `Deutschland`, `Frankreich` and `Italien`, with XSLT.
- d) [4 points] Use XSLT to output and automatically assign “(odd)” to an odd score and “(even)” to an even score for the German score: i.e.:

30(even)  
35(odd)  
37(odd)  
44(even)

- e) [4 points] Write an XSLT stylesheet that renders the data in an HTML table as follows:

	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
<b>Germany</b>	30	35	37	44
<b>France</b>	21	24	23	19
<b>Italy</b>	17	19	17	20

- f) [5 points] Write an XSLT stylesheet that renders the data in an HTML table as follows:

country	<b>France</b>	<b>Germany</b>	<b>Italy</b>
<b>2000</b>	21	30	17
<b>2001</b>	24	35	19
<b>2002</b>	23	37	17
<b>2003</b>	19	44	20

### Exercise 3.2

Given is the following topic hierarchy encoded in XML:

```
<topics>
  <computer-science>
    <information-systems>
      <data-bases/>
      <xml-technologies>
        <xpath/>
        <xslt/>
      </xml-technologies>
    </information-systems>
    <machine-learning/>
  </computer-science>
  <mathematics>
    <algebra/>
  </mathematics>
</topics>
```

[5 points] Write two XSLT stylesheets that render this topic hierarchy to HTML such that it looks as follows in a browser:

```
1. computer-science
  1. information-systems
    1. data-bases
    2. xml-technologies
      1. xpath
      2. xslt
  2. machine-learning
2. mathematics
  1. algebra
```

```
1. computer-science
  1.1. information-systems
    1.1.1. data-bases
    1.1.2. xml-technologies
      1.1.2.1. xpath
      1.1.2.2. xslt
  1.2. machine-learning
2. mathematics
  2.1. algebra
```

### Exercise 3.3

The movie critic Piero Scaruffi has published a list of the *1000 Best Films of all Times* (see <http://www.scaruffi.com/cinema/best100.html>). The XML-ified version of this HTML page looks like

```
<?xml version="1.0"?>
<movielist>
<entry rank="1" year="1941">
<director>Orson Welles</director>
<title>Citizen Kane</title></entry>
<entry rank="2" year="1959">
<director>Alfred Hitchcock</director>
<title>North By Northwest/ Intrigo Internazionale</title></entry>
<entry rank="3" year="1958">
<director>Orson Welles</director>
<title>Touch Of Evil</title></entry>
...
</movielist>
```

(the full list is available at the script page of the lecture / online).

- a) [5 points] Write an XSLT stylesheet that transforms the XML document in a HTML document listing the movies by rank.
- b) [10 points] Write XSLT stylesheets that build a small website that consists of
1. a page for films listed by rank,
  2. a page for directors listed alphabetically with a list of films directed by each director,
  3. a page for films listed by year,

such that

- each rank is a hyperlink that points to the position of the film in the list by rank,
- each director is a hyperlink that points to the position of the director in the list by director, and
- each year is a hyperlink that points to the position of the year in the list by years.

(screen shots of the expected result for this exercise are posted online)