

# Assignment 8

16.05.2006

**Due date: 01.06.2006**

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## Transformations

In the previous assignments we have automatically generated a scanner and a parser for grammars with Coco/R. The scanner and the parser performed the lexical, syntactical and semantic analysis. Grammars, however can not only be used for generating a set of classes that do an analysis on an input document, but also to construct a document, following the grammar that was the basis for generating the set of classes.

This and the next assignment will be spent on the following topic: the objective is to present a list of books in your library application using an internal browser displaying the list of books in HTML. We accomplish two transformations. The first transformation transforms the list of objects, representing a list of books, in your application into a XML (<http://www.w3.org/XML/>) document. The second transformation done in the next assignment will be on transforming the XML document into an HTML document.

To accomplish the task, we proceed as follows:

1. Create an XML document manually that looks like the XML document that you want to be the resulting XML document of your first transformation.
2. Create a grammar for that XML document using XML Schema (<http://www.w3.org/XML/Schema>) (you may use tools (e.g. Microsoft's Visual Studio) that create a XML schema on the basis of an example XML document)
3. Use the XML Schema with the Java Architecture for XML Binding (JAXB) ([http://java.sun.com/webservices/technologies/index.jsp#Core\\_Web\\_Services](http://java.sun.com/webservices/technologies/index.jsp#Core_Web_Services)) (see The Java Web Services Tutorial: <http://java.sun.com/webservices/docs/1.6/tutorial/doc/index.html>) to generate a set of classes allowing you to construct a XML document that follows the XML Schema.
4. Validate the XML document and display it.