

## **Modeling of an XML database to store the data of a library.**

**You should store the metadata about books, distinguish among different kinds of books: for adults versus children, novels, comics, magazines, books on arts, history, science, politics, etc., books that can be borrowed versus books that can only be consulted in the library. You should model the various aspects of a library: not only book metadata, but also data related to their purchase by the librarians and data related to the library's members and the borrowing of books: borrowing and return dates, number of borrowing authorized, etc.**

- Describe your modeling choices in natural language. Think about the advantages and disadvantages of your choices and discuss them.
- Write an XML Schema that represents your modeling
- Write a valid XML database against this model, containing a representative extract of the database of some library.
- Imagine 3 different scenarios requiring the visualization of part of this data and write 3 XSL stylesheets to answer them.
- Imagine a 4th scenario requiring the exploitation of part of this data in another XML format and write a stylesheet for this.
- Bonus: Imagine a 5th scenario requiring the exploitation of part of this data in JSON format and write a stylesheet for this.

You will be evaluated according to the quality and richness of your modeling, the scenarios imagined and the quality of your stylesheets (prefer a recursive XSL programming style that extensively uses XPath).

Upload a zip file containing:

- A report of max 4 pages in pdf format presenting:
  - your modeling choices behind your XML schema, and the advantages and disadvantages of your choices for the processing of the data
  - your XSLT transformations and the use cases they answer

Also precisely indicate in your report your working environment, and the tools or online services you used.

- your source XML file
- your XML Schema file
- your XSLT files containing in comments their description in natural language
- the output of your XSLT transformations
- optional (bonus): the JSON Schema of the 5th output