Laboratory 8
Modeling XML documents, checking well-formedness of XML documents, validating XML documents against DTD and XML Schema

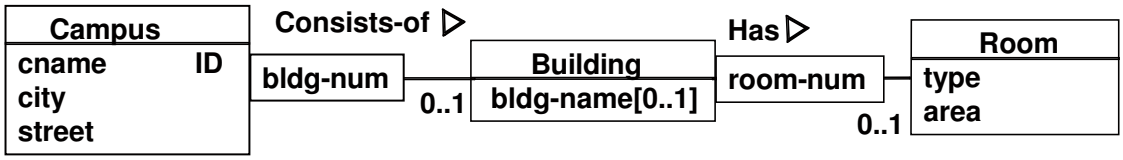
It is expected that you do Homework 9 before implementation of the tasks included in Laboratory 8.

This laboratory consists of 4 tasks.

Task 1 Modeling XML documents

Download and unzip a file `documents8.zip`.

Consider the following conceptual schema representing a database domain of university campuses, buildings and rooms.



Implement XML document with the sample contents of a university database consistent with a conceptual schema given above. Insert into you document at least two instances of objects from each class. Associations and values of attributes are up to you. Logon to XP system, start Command Prompt and use a program `oraxml` to check whether your document is well formed. Information on how to use a program `oraxml` to verify whether XML document is well-formed is included in `Homework 9`, `Experiment 9.1`, `Step 0`. Save your document in a file `task1.xml`.
A file `task1.xml` will be submitted at the end of laboratory class.

Task 2 Modeling XML documents

Read and analyse the contents of XML document included in a file `not-well-formed.xml`.

Check if the document is well formed. If the document is not well formed then perform the smallest number of corrections to make it well formed. Logon to XP system, start Command Prompt and use a program `oraxml` to check whether your document is well formed. Information on how to use a program `oraxml` to verify whether XML document is well-formed is included in `Homework 9, Experiment 9.1, Step 0`.

Save a corrected and well formed document in a file `task2.xml`.

A file `task2.xml` will be submitted at the end of laboratory class.

Task 3 Validating XML documents against DTD

Read and analyse the contents of the XML documents included in the files `task3-1.xml`, `task3-2.xml`, `task3-3.xml`, and `task3-4.xml`.

For each one of XML documents included in the files `task3-1.xml`, `task3-2.xml`, `task3-3.xml`, and `task3-4.xml` construct external DTD that validates a document. Save DTDs in the files `task3-1.dtd`, `task3-2.dtd`, `task3-3.dtd`, and `task3-4.dtd`. Logon to XP system, start Command Prompt and use a program `oraxml` to check whether the documents validate against the DTDs. Information on how to use a program `oraxml` to validate XML document is included in `Homework 9`, `Experiment 9.2` or `Experiment 9.3`, `Step 0`.

The files `task3-1.dtd`, `task3-2.dtd`, `task3-3.dtd`, and `task3-4.dtd` will be submitted at the end of laboratory class.

Task 4 Validating XML documents against XML Schema

Read and analyse the contents of the XML documents included in the files `task4-1.xml`, `task4-2.xml`, `task4-3.xml`, and `task4-4.xml`.

For each one of XML documents included in the files `task4-1.xml`, `task4-2.xml`, `task4-3.xml`, and `task4-4.xml` construct XML Schema that validates a document. Save XML Schemas in the files `task4-1.xsd`, `task4-2.xsd`, `task4-3.xsd`, and `task4-4.xsd`. Logon to XP system, start Command Prompt and use a program `oraxml` to check whether the documents validate against the XML Schemas. Information on how to use a program `oraxml` to validate XML document is included in `Homework 9`, `Experiment 9.4` or `Experiment 9.5`, `Step 0`.

The files `task4-1.xsd`, `task4-2.xsd`, `task4-3.xsd`, and `task4-4.xsd` will be submitted at the end of laboratory class.

Submission

Zip the files `task1.xml`, `task2.xml`, `task3-1.dtd`, `task3-2.dtd`, `task3-3.dtd`, `task3-4.dtd`, `task4-1.xsd`, `task4-2.xsd`, `task4-3.xsd`, and `task4-4.xsd` obtained as the solutions of tasks 1, 2, 3, and 4 into a file `solutions8.zip` and submit the file through Moodle. A submission procedure is the following.

(1) Connect to Moodle.
(2) Navigate to a folder `SUBMISSIONS`→`LABORATORY SUBMISSIONS`.
(3) Click at `LABORATORY 8, Submit your solutions here` link.
(4) Click at `Add Attachments` button.
(5) Navigate to a location where a file `solutions8.zip` has been saved.
(6) Select the file and click at `Open` button.
(7) Click at `Submit` button.
(8) Click at `OK` button to return to `Home Page`.

End of laboratory 8