

Semantic Web

Assignment 6

Johannes Härtel Iryna Dubrovskaya

Institute of Web Science and Technologies
Department of Computer Science
University of Koblenz-Landau

Some of the tasks may require you to do additional research extending the lecture. Please keep the citation rules in mind.

For all the assignment questions that require you to write a code, make sure to include the code in the answer sheet, along with a separate python file. Where screen shots are required, please add them in the answers directly and not as separate files.

Please submit your XML solutions in separate files.

Team Name: XXXX

Team Members: XXXX

1 Ontology Engineering

Create an ontology in the domain of tourism. You can take the city of Koblenz as an example. Your ontology should cover such aspects as accommodation, places of interest, gastronomy and others. Make sure you follow the steps required to design ontology.

1. Design Ontology

- Go through all the steps of ontology engineering, following the methodology presented in the lecture.
- Document all the steps (1-7) by outlining the respective results.
- Design an appropriate ontology defining at least 3 concepts, their (possible) hierarchy, properties and relationships. Document each element of the ontology comprehensibly in OWL and submit the file. Make use of annotations for documenting each element.

Hint: you can have a look at the existing ontology such as for example <http://ontologies.sti-innsbruck.at/acco/ns.html>.

You can make use of Protégé to build the ontologies (<http://protege.stanford.edu>).

2. Instantiate

- Specify at least 8 statements with instances for your ontology. You must cover all the elements of your ontology: concepts, properties, relationships.
- Encode your statements in an RDF file. You are free to choose the RDF format you find convenient.

3. Generate Report (optional, +1 point)

- Create and submit technical documentation in a form of HTML file for the ontology. The documentation should provide information about designed classes, properties and relationships.

Important Notes

Submission

- Solutions have to be submitted to the OLAT repository Submission in the respected folder.
- The name of the group and the names of all participating students with matriculation numbers must be listed on each submission.
- Solution format: all solutions as *one* PDF document. Programming code has to be submitted as Python code to the OLAT repository. Upload *all* `.py` files of your program! Use **UTF-8** as the file encoding. *Other encodings will not be taken into account!*
- Check that your code compiles without errors.
- Make sure your code is formatted to be easy to read.
 - Make sure you code has consistent [indentation](#).
 - Make sure you comment and document your code adequately in English.
 - Choose consistent and intuitive names for your identifiers.
- Do *not* use any accents, spaces or special characters in your filenames.

Acknowledgment

This pdfLaTeX template was adapted by Jun Sun and Iryna Dubrovskaya based on the LuaLaTeX version by Lukas Schmelzeisen.

LaTeX

Use `pdflatex assignment_X.tex` to build your PDF.