

## Exercise Sheet 07

(Semantic Web)

**Please note:** The exercises will be neither collected, corrected, nor graded.

### Exercise 1

- a) What are ABox, TBox, and RBox?
- b) What is reification and what is the problem with it?

### Exercise 2

Download Protégé 5 from <http://protege.stanford.edu/products.php> and open the University Ontology on our webpage (<http://www.ifis.cs.tu-bs.de/sites/default/files/uni.txt>).

- a) Play around with the ontology, try to perform some classifications or queries and remove some inconsistencies.
- b) If you add **not** *Professor* to the equivalence classes statement of *Teacher*, also *Kinda* disappears from the teacher class. Why?
- c) Add the following concepts at a useful place in the ontology (if possible – if not, guess why it does not work).
  - *Institute* (with a property *leadBy* to *Person* and some useful properties to *Lecture* and *University*)
  - The property *supervises* which is a subproperty of *teaches*. Somebody supervises a lecture if he/she is the professor of the institute to which the lecture belongs.
  - *ComputerScienceLecture*, *EconomicsLecture*
  - *CSStudent* (Somebody is a *CSStudent* if he/she attends at least 3 CS lectures)
  - *EconomicsStudent* (Somebody is a *EconomicsStudent* if he/she attends at least 3 economics lectures)
  - Test your ontology! (maybe add some individuals to run the tests...)