6. Exercises for the Course
'Description Logics'

Exercise 22:

Show that the size $|C|_{\mathcal{T}}$ of a concept C w.r.t. to an acyclic TBox $\mathcal{T}$, as defined in the lecture, is well-defined.

Exercise 23:

Extend the tableau algorithm given in the lecture such that it can decide ABox consistency in the DL $\mathcal{ALCN}$; that is,

- find new tableau rules and clashes, if necessary,

- extend the proof of local correctness,

- adapt/extend the proofs of soundness and completeness.

Exercise 24:

You have a list of tasks to solve. Each task has an attached priority between 1 (low) and 100 (high). You solve one task after the other following the priority order at every moment. While solving one task, you might find that several subtasks need now to be solved. In this case, you replace the original task by all these new subtasks, each of which has strictly lower priority than the original task.

Show that this process terminates eventually.