Fuzzy Description Logics

Exercise Sheet 8

Dr. Felix Distel
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Exercise 33

Show that the completion algorithm for Gödel-$\mathcal{EL}$ terminates in polynomial time.

Exercise 34

In crisp $\mathcal{ALCH}$ (i.e. $\mathcal{ALC}$ extended with role inclusions) express that

a) Something that has a side effect also has an effect.

b) A thing's side effect is at the same time that thing's effect.

Exercise 35

Let $\mathcal{T}$ be the TBox $\mathcal{T} = \{\langle \exists r.A \sqsubseteq A, 0.5 \rangle\}$. Using the translation to crisp $\mathcal{ALCH}$ from the lecture check whether $A \sqcap \forall r.\bot$ is subsumed by $\exists r.(A \sqcup B)$ wrt $\mathcal{T}$ to degree 0.5 when the semantics are restricted to witnessed models.