TECHNISCHE UNIVERSITÄT DRESDEN

Faculty of Computer Science Institute of Theoretical Computer Science, Chair of Automata Theory

Fuzzy Description Logics

Challenging Exercise 2

Dr. Rafael Peñaloza / Dr. Felix Distel
Winter Semester 2011/2012

We say that an interpretation $\mathcal{I}$ is *weakly witnessed* if for every concept C, role name r and $x \in \Delta^{\mathcal{I}}$ there is a $y \in \Delta^{\mathcal{I}}$ such that

$$(\exists r.C)^{\mathcal{I}}(x) = \min(r^{\mathcal{I}}(x, y), C^{\mathcal{I}}(y)).$$

An ontology is *weakly witnessed consistent* if it has a weakly witnessed model.

Prove or disprove:

there is a consistent ontology that is **not** weakly witnessed consistent.