On the Computation of Ranking Functions for Default Rules – A Challenge for Constraint Programming

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Abstract: Qualitative conditionals of the form *If A then normally B* can be viewed as default rules, and they require a semantical treatment going beyond the models used in classical logic. Ranking functions assigning degrees of plausibility to each possible world have been proposed as an appropriate semantic formalism. In this paper, we discuss the computation of c-representations corresponding to particular ranking functions for a set $\mathcal{R}$ of qualitative conditionals. As a challenge for constraint programming, we formulate a constraint satisfaction problem $CR(\mathcal{R})$ as a declarative specification of all c-representations for $\mathcal{R}$, and we argue that employing constraint programming techniques will be advantageous for computing all minimal solutions of $CR(\mathcal{R})$.