Multi-Valued Semantics for Logic Programs

Victor FELEA
Faculty of Computer Science,
University "AL.I.Cuza" Iasi, Romania,
General Berthelot 16, Iasi, 6600
felea@thor. infoiasi.ro

Abstract

For a general logic program, a *n+1*-valued partial interpretation *I* is defined. The interpretation *I* is considered as a vector of sets on Herbrand base of the program *P*. For the partial interpretation *I*, the notion of model of *P* is defined.

A *n+1*-valued uniform well-founded partial model and the *n+1*-valued uniform well-founded semantics are defined for the program *P*. If the *n+1*-valued uniform well-founded model is a total model, then it is called *n+1*-valued uniform total well-founded model. For the case *n=2* this semantics is more restrictive than the well-founded semantics defined by A. Gelder, K- Ross and J. Schlipf.

AMS Classification: 68N17, 68Q55.

Key words: Logic programming, Semantics.