

Set Functions for Functional Logic Programming^{*}

Michael Hanus

Christian-Albrechts-Universität zu Kiel

Abstract. We propose a novel approach to encapsulate non-deterministic computations in functional logic programs. Our approach is based on set functions that return the set of all the results of a corresponding ordinary operation. A characteristic feature of our approach is the complete separation between a usually-non-deterministic operation and its possibly-non-deterministic arguments. This separation leads to the first provably order-independent approach to computing the set of values of non-deterministic expressions. Our approach solves easily and naturally problems mishandled by current implementations of functional logic languages.

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