Abstract

A Simple Sufficient Condition for the Completeness of a Heuristic Procedure for Inverse Unfold Problem

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Unfold/fold transformations have been widely studied in various programming paradigms and are used in program transformations, theorem proving, and so on. Unfolding expands a sub-expression of a program using its own definitions. Folding does the opposite, but restoring a one-step unfolding by folding is not easy as we expect because some rules used by unfolding may be lost. In our previous work, we proposed a heuristic procedure that solves the inverse problem of unfolding for conditional term rewriting systems, call pure-constructor systems. This paper reformulates it on term rewriting systems, and shows a simple sufficient condition for the completeness in the sense that the procedure always find a solution if it exists.

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