Relating logic programming theories of actions and partial order planning - I

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Abstract

In this paper we argue that logic programming theories of action allow us to identify subclasses when the the corresponding logic program has nice properties (such as acyclicity) that guarantees decidability and sometimes polynomial time plan testing. As an example we extend the action description language $\mathcal{A}$ to allow executability conditions and show its formalization in logic programs. We show the relationship between the execution of partial order planners and the SLDNF tree w.r.t. the logic programs. In the end we briefly discuss how this relationship helps us in extending partial order planners to extended languages following the corresponding logic program (and its SLDNF tree).

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