On the Interplay of Defeasible Reasoning and Partial Order Planning

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Argumentation-based formalisms provide a way of considering the defeasible nature of reasoning with partial and often erroneous knowledge in a given environment. This problem affects every aspect of a planning process. We will present an argumentation-based formalism that an agent could use for constructing plans. In such a formalism, agents represent their knowledge about their environment in Defeasible Logic Programming, and have a set of actions they can execute to affect their environment. These actions are defined in combination with the defeasible argumentation formalism. We will analyze the interplay of arguments and actions when constructing plans using Partial Order Planning techniques.