This contribution proposes a model for argumentation-based multi-agent planning, with a focus on cooperative scenarios. It consists in a multi-agent extension of DeLP-POP, partial order planning on top of argumentation-based defeasible logic programming. In DeLP-POP, actions and arguments (combinations of rules and facts) may be used to enforce some goal, if their conditions (are known to) apply and arguments are not defeated by other arguments applying. In a cooperative planning problem a team of agents share a set of goals but have diverse abilities and beliefs. In order to plan for these goals, agents start a stepwise dialogue consisting of exchanges of plan proposals, plus arguments against them. Since these dialogues instantiate an A* search algorithm, these agents will find a solution if some solution exists, and moreover, it will be provably optimal (according to their knowledge).
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