

ABSTRACT: Open Answer Set Programming (OASP) is an attractive framework for integrating ontologies and rules. Although several decidable fragments of OASP have been identified, few reasoning procedures exist. In this paper, we provide a sound, complete, and terminating algorithm for satisfiability checking w.r.t. forest logic programs, a fragment where rules have a tree shape and allow for inequality atoms and constants. We further introduce f-hybrid knowledge bases, a hybrid framework where SHOQ knowledge bases and forest logic programs co-exist, and we show that reasoning with such knowledge bases can be reduced to reasoning with forest logic programs only. We note that f-hybrid knowledge bases do not require the usual (weakly) DL-safety of the rule component, providing thus a genuine alternative approach to hybrid reasoning.