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REDLOG
REDLOG is a package that extends the computer algebra system REDUCE to a computer logic system, i. e., a system that provides algorithms for the symbolic manipulation of first-order formulas over some temporarily fixed language and theory. In contrast to theorem provers and logic programming systems, the methods applied know about the underlying algebraic theory and make use of it. Scientific and industrial applications of REDLOG so far include: analysis, sizing, and diagnosis of physical networks; control theory; stability analysis for PDE; automatic theorem proving; geometric reasoning; computer aided design, computer vision, and solid modeling; computational geometry; constraint solving; non-convex parametric linear and quadratic optimization; parametric scheduling; real implicitization of parametric surfaces; guarded expressions. REDLOG is available on `http://www.fmi.uni-passau.de/~redlog/`.