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**Finite-state unification automata and relational languages.**

(English. English summary)

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Let  $\Sigma$  be an alphabet of binary relational symbols (“relational names”) and  $X$  a countably infinite set of variables. A “relational language” is a subset of the set of all sequences over the infinite set  $\{r(x, y) \mid r \in \Sigma, x, y \in X\}$ .

The authors introduce a finite-state acceptor model for these relational languages, which is based on transitions defined in terms of unification of variables. This model—called a finite-state datalog automaton or FSDA—results in the family of FSDA-acceptable or “regular relational languages”. The authors’ main result consists of a pumping lemma for this family of regular relational languages.

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