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Sarah E. Rees* (Sarah.Rees@ncl.ac.uk), School of Mathematics and Statistics, University of Newcastle, Newcastle, Tyne&Wear NE3 1ED, England. *The automata that define representations of monomial algebras.*

This talk is an advertisement for the use of some elementary automata theory to take shortcuts in the study of representations of algebras. I assume no knowledge of representation theory.

It is known to representation theorists that the sets of strings that define all representations of string algebras and many representations of other quotients of path algebras form regular sets, and hence are defined by finite state automata.

I shall explain how these representations are constructed, and why there is a correspondence with regular sets. In fact these sets are locally testable. I shall explain how the automata defining them can easily be constructed from the underlying quivers (directed graphs) and other information which defines the algebra, and hence how both strings and bands (particular strings, defining 1-parameter families of representations) are easily recognised graphically. (Received February 22, 2007)