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**A graph theoretic approach to automata minimality. (English summary)**

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Using notions from graph theory, the authors test whether a deterministic finite automaton (DFA) is minimal with respect to the cardinality  $\#Q$  of its set of states  $Q$ . For the restricted class of strongly connected and complete DFAs, they focus on the dependence of the minimality of a DFA on the choice of the set  $F$  of its final states or on  $\#F$ . It is shown that (i) the class of “ $k$ -uniformly minimal automata” (i.e., DFAs which are minimal for each  $F$  with  $\#F = k$ ) can be characterized in graph-theoretic terms, and (ii) there exists a polynomial-time algorithm to test the uniform minimality (i.e.,  $k$ -uniform minimality for each  $k \leq \#Q$ ) of a DFA.

Reviewed by *Peter R. J. Asveld*

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*Note: This list reflects references listed in the original paper as accurately as possible with no attempt to correct errors.*