ON THE BEHAVIOUR OF AUTOMATA. I.

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Abstract

Several kinds of behaviours of automata have been studied in the literature, to be discussed here. They can be classified following two criteria: total vs external, and sequential vs final. The papers [3],[4] introduce behaviouristic automata, a common generalization of Mealy and Rabin-Scott automata, and study their total sequential behaviour. The paper [5] introduces F-automata, a common generalization of Mealy and Moore automata, and generalizes within this framework the Goguen theorem "realization is universal".

In the present paper we show that Moore automata are also a particular case of behaviouristic automata. Then we prove a Goguen-like theorem for the sequential (instead of final) behaviour of Moore automata.

Key words: Mealy automaton, Moore automaton, behaviouristic automaton, F-automaton, sequential behaviour, final behaviour, external behaviour.