

## عنوان مقاله:

Kleen's Theorem for BL-general L-fuzzy automata

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## خلاصه مقاله:

The contribution of general fuzzy automata to neural networks has been considerable, and dynamical fuzzy systems are becoming more and more popular and useful. Basic logic, or BL for short, has been introduced by Hájek [5] in order to provide a general framework for formalizing statements of fuzzy nature. In this note, some of the closure properties of the BL-general fuzzy automaton based on lattice valued such as union, intersection, connection and a serial connection are considered, after that, the behavior of them are discussed. Moreover, for a given BL-general fuzzy automaton on the basis of lattice valued, a complete BL-general fuzzy automaton on the basis of lattice valued is presented. Afterward, we may test the Pumping Lemma for the BL-general fuzzy automaton based on lattice valued. In particular, a connection between the behavior of BL-general fuzzy automaton based on lattice valued and its language is presented. Also, it is proven that L is a recognizable set if and only if L is rational. Also, it is driven that Kleen's Theorem is valid for the BL-general fuzzy automaton on the basis of lattice valued. Finally, we give some examples to clarify these notions.

## کلمات کلیدی:

BL-general fuzzy automata, Closure properties, Behavior of fuzzy automata, Pumping Lemma, Kleen's Theorem

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