UNIVERSITÀ DEGLI STUDI DI PALERMO

Dipartimento di Matematica e Informatica

Words and Automata Research Group

Seminar Announcement

Two-way automata and descriptional complexity

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Thursday 6th March 2014, 3 p.m.
Room 7, Via Archirafi 34, 90123 Palermo

The notion of two-way automata was introduced at the very beginning of automata theory. In this model, the head can be moved in both directions on the input tape.
In 1959, Rabin and Scott and, independently, Shepherdson, proved that these models, both in the deterministic and in the nondeterministic versions, have the same power of one-way automata, namely, they characterize the class of regular languages.
In 1978, Sakoda and Sipser posed the question of the cost, in the number of the states, of the simulation of one-way and two-way nondeterministic automata by two-way deterministic automata. They conjectured that these costs are exponential. In spite of all attempts to solve it, this question is still open.
In the last years the problem of Sakoda and Sipser was widely reconsidered and many new results related to it have been obtained.
In this talk we will present some of the classical results related to this problem, together with some recent developments.

All interested people, in particular students, are invited to participate

For furher information:

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