Approximate Solution to Maximal Clique Problem Using Distributed Learning Automata

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Abstract: Maximal Clique in a graph is a set of vertexes in which any two arbitrary vertexes are adjacent and in addition is not a subset of any clique with greater cardinality. This problem is NP-hard and different approximation solutions have been made for it. Learning Automata is a public search tool and has been used for solving some NP-hard problems. In this paper, we present an algorithm based on Distributed Learning Automata to solve Maximal Clique problem. We test its efficiency on some instances of this problem and compare with some existent algorithms. Results of this comparison indicate the efficiency of our method.

Key words: Maximal Clique, Learning Automata, Distributed Learning Automata