Some Algorithms Concerning Uniquely Decipherable Codes

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Abstract

The following problem plays an important role in code theory and its applications: Having a set of codewords we have to decide whether there are two or more sequences of codewords which form the same chain of characters of codewords. The problem can be approached in various ways, so the algorithms concerning uniquely decipherable codes use different devices for testing this property. The algorithm of Sardinas–Patterson is based on sequences of sets, other algorithms solve this problem by using finite automata. The purpose of this paper is to show the common root of different algorithms.

Keywords: Uniquely decipherable codes, automata, length-variable codes.

MSC: 94B35, 94A45, 68Q45.

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