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Text Pattern Searching Algorithm: Naive, KMP, Rabin Karp Comparative Study

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Abstract: The Pattern Searching algorithms are sometimes also referred to as String Searching Algorithms and are considered as a part of the String algorithms. These algorithms are useful in the case of searching a string within another string. String matching is the problem of finding all occurrences of a character pattern in a text. This paper provides an overview of different string-matching algorithms and comparative study of these algorithms. In this paper, we have evaluated several algorithms, such as Naive string-matching algorithm, Brute Force algorithm, Rabin-Karp algorithm, Boyer-Moore algorithm, Knuth-Morris-Pratt algorithm, Aho-Corasick Algorithm and Commentz Walter algorithm.

Keywords:String Matching, Naïve Search, Rabin Karp, KMP, Exact String Matching, Approximate String Matching, etc.

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