Rabin-Karp String Search Algorithm

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Abstract

100-200 Word summary of report. Write last, including main points. Purpose summarize report and results

1. Introduction

The Rabin-Karp String Search Algorithm is a powerful and versatile method for pattern matching. It works by employing a rolling hash function to quickly compare the hash values of substrings in the text with the hash value of the target pattern. When a hash match is found, the algorithm performs a character-by-character comparison to confirm the match, allowing it to find all occurrences of the pattern in linear time complexity.

This report delves into the intricacies of the algorithm, through comparison with other string search algorithms, justification of its superiority, an in depth explanation of the algorithm, implementation details and an analysis of time complexity. All together this report will provide an in depth review of the Rabin-Karp String Search Algorithm as an efficient tool in string searching and pattern matching.

1. Comparison with Other Algorithms
2. Justification of its Superiority
3. Explanation of the Algorithm
4. Implementation Details
5. Results
6. Analysis of Time Complexity with Proofs
7. Conclusion

References

[1] TODO