Abstract

Bit Parallelism exploits bit level parallelism in hardware to perform operations. Bit Parallelism is a technique that is used to solve string matching problem, when the pattern to be searched for is less than or equal word size of a system. It is a technique that takes the advantage of intrinsic parallelism of the bit operations inside a system word. By using cleverly this fact, the number of operations that an algorithm performs can be cut down by a factor of at most w, the number of bits in system word. Since in current architecture word size is 32 bits or 64 bits, the speedup is very significant in practice. It is a form of parallel computing and is used to have a solution to exact string matching problem. The approach is further extended for multiple patterns string matching problem.

References

- Heikki Hyyro, Kimmo Fredrikson, Gonzalo Novarro, "Increased Bit Parallelism for Approximate and Multiple String Matching"; Journal of Experimental Algorithmics, Vol 10 , 2005

Index Terms

Computer Science Pattern Recognition

Keywords

String Matching Bit Parallelism Suffix Automata.