

Suffix array is a data structure used for string operations such as pattern matching. It is also useful for some lossless data compression algorithms. In this paper I present a comparison of several different ways to construct it (algorithms of Manber & Myers, Kärkkäinen & Sanders, Seward, Manzini & Ferragina and Ukkonen's algorithm for suffix tree construction). I implemented these methods and together with common sorting algorithms (mergesort, quicksort, heapsort and shellsort) tested both on standard data files and on randomly generated files of different alphabet sizes. I also studied the possibility of using these algorithms for inputs of alphabet greater than 256 characters.