Abstract

Algorithms are a fundamental component of Computer Science, with every development in this
field based on or around them. Each algorithm is evaluated for its performance using some technique, with asymptotic analysis being a frequently used one. Algorithms that have best time complexity theoretically (be it Oh, Theta or Omega Notation), may not have the best execution time in practice which depends on implementation efficacy, input dataset, constants and factors that are overlooked in asymptotic analysis. The lack of software which allows a user to compare various algorithms available for an operation for a given input dataset, supplemented with its graphical analysis encourages for the creation of the same. In this paper, we present a software tool which provides a range of algorithms for a given operation and measures the execution time for each of them. It then provides a graphical analysis of the algorithms executed, showing the performance of the algorithms belonging to a particular operation when run against a custom, input data set.

References


Index Terms

Computer Science
Algorithm

Keywords

Algorithms  Benchmark  Runtime-performance  Graphical-analysis