

Assignment 2

Algorithms and Data Structures

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1 Introduction

In worst-case scenario quicksort is of $O(n^2)$ which is worse than heapsort which has $n\log(n)$. This is if you would make a very unfortunate choice of pivot for quicksort. However, in practise quicksort is in general the fastest. For computers and systems inbuilt functions it is very common to use quicksort. One could say that heapsort is best in the worst case scenario and for very large problems (as it has low complexity), but quicksort is best in general because of its speed. Insertion sorts is also worst case scenario $O(n^2)$. For small data-sets or if the data is already substantially sorted it is very efficient to use insertion sort.