

Assignment 2

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Comparison of algorithms

Insertionsort's best case running time is $\mathcal{O}(n)$ is faster than both the other algorithms' best case. This is achieved if the array is sorted at the start.

In other cases Heapsort outperforms Insertionsort with $\mathcal{O}(n \log n)$ whereas Insertionsort has runningtime $\mathcal{O}(n^2)$.

Quicksort has at best the same runningtime as heapsort. However, trying the code with $n = 100000$, quicksort consistently produced better results, mostly more than twice as fast. This may be caused by memory handling or hardware.