

# 1 Theoretical Analysis

## 1.1 Table of Sorting Algorithms

Algorithm	Best	Worst	Average
Selection	$\Theta(n^2)$	$\Theta(n^2)$	$\Theta(n^2)$
Insertion	$\Theta(n)$	$\Theta(n^2)$	$\Theta(n^2)$
Bubble	$\Theta(n^2)$	$\Theta(n^2)$	$\Theta(n^2)$
Bubble (with swaps)	$\Theta(1)$	$\Theta(n^2)$	$\Theta(n^2)$
Quick	$\Theta(n \log n)$	$\Theta(n^2)$	$\Theta(n \log n)$
Merge	$\Theta(n \log n)$	$\Theta(n \log n)$	$\Theta(n \log n)$