DSA through C++

Time Complexity

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Agenda

1. Selection Sort
2. Bubble Sort
3. Linear Search
4. Binary Search
5. Quick Sort
6. Merge Sort

Selection Sort

Best Case	Average Case	Worst Case
$\Omega(n^2)$	$\Theta(n^2)$	$O(n^2)$

Bubble Sort

Best Case	Average Case	Worst Case
$\Omega(n^2)$	$\Theta(n^2)$	$O(n^2)$

Modified Bubble Sort

Best Case	Average Case	Worst Case
$\Omega(n)$	$\Theta(n^2)$	$O(n^2)$

Linear Search

Best Case	Average Case	Worst Case
$\Omega(1)$	$\Theta(n)$	$O(n)$

Binary Search

Best Case	Average Case	Worst Case
$\Omega(1)$	$\Theta(\log n)$	$O(\log n)$

Quick Sort

Best Case	Average Case	Worst Case
$\Omega(n \log n)$	$\Theta(n \log n)$	$O(n^2)$

Merge Sort

Best Case	Average Case	Worst Case
$\Omega(n \log n)$	$\Theta(n \log n)$	$O(n \log n)$