Time Complexity Table

Symbol	Description	Mathematically
$f = O(g)$	f grows no faster or at the same rate as g	there is a constant $c > 0$ s.t. $f \leq c \cdot g$ for sufficiently large n
$f = o(g)$	f grows strictly slower than g	$\lim_{n\to\infty} f/g = 0$
$f = \Omega(g)$	f grows faster or at least as fast as g	there is a constant $c > 0$ s.t. $f \geq c \cdot g$ for sufficiently large n
$f = \omega(g)$	f grows strictly faster than g	$\lim_{n\to\infty} f/g = \infty$
$f = \Theta(g)$	$f = O(g)$ and $f = \Omega(g)$	—

Database Comparisons

Method	Pre-Process	Insert	Delete	Search	Min/Max	Select	N.S./N.L.
Sorted Array	$O(n \log n)$	$O(n)$	$O(n)$	$O(\log n)$	$O(1)$	$O(1)$	$O(\log n)$
AVL Tree	$O(n \log n)$	$O(\log n)$	$O(\log n)$	$O(\log n)$	$O(\log n)$	$O(\log n)$	$O(\log n)$
QuickSelect	N.A.	N.A.	N.A.	N.A.	N.A.	$O(n)$	N.A.
Hash Table	$O(n)$	$O(1)$	$O(1)$	$O(1)$	N.A.	N.A.	N.A.