

Data Structure Summary

Structure	find	insert/remove	Comments
Array	$O(n)$	can't do it	Constant-time access by position
Stack	top only $O(1)$	top only $O(1)$	Easy to implement as an array.
Queue	front only $O(1)$	$O(1)$	insert rear, remove front.
ArrayList	$O(N)$ $O(\log N)$ if sorted	$O(N)$	Constant-time access by position Add at end: am. $O(1)$, worst $O(N)$
Linked List	$O(N)$	$O(1)$	$O(N)$ to find insertion position.
HashSet/Map	$O(1)$	amort. $O(1)$, worst $O(N)$	Not traversable in sorted order
TreeSet/Map	$O(\log N)$	$O(\log N)$	Traversable in sorted order
PriorityQueue	$O(1)$	$O(\log N)$	Can only find/remove smallest
Search Tree	$O(\log N)$	$O(\log N)$	If tree is balanced, $O(N)$ otherwise

*Some of these are amortized, not worst-case.