Big-Oh Cheat Sheet

Name	Time Complexity								Space Complexity
	Worst Case Runtime				Average Case Runtime				Worst Case
	Access	Insertion	Deletion	Search	Access	Insertion	Deletion	Search	
Array	O(1)	O(n)	O(n)	O(n)	O(1)	O(n)	O(n)	O(n)	O(n)
AVL Tree	O(log n)	O(log n)	O(log n)	O(log n)	O(log n)	O(log n)	O(log n)	O(log n)	O(n)
Binary Heap	O(log n)	O(log n)	O(log n)	O(n)	O(log n)	O(log n)	O(log n)	O(log n)	O(n)
Binary Search Tree	O(n)	O(n)	O(n)	O(n)	O(log n)	O(log n)	O(log n)	O(log n)	O(n)
Hashtable	N/A	O(n)	O(n)	O(n)	N/A	O(1)	O(1)	O(1)	O(n)
Queue	O(n)	O(1) when adding to front	O(1) when removing from front	O(n)	O(n)	O(1) when adding to front	O(1) when removing from front	O(1)	O(n)
Singly Linked List	O(n)	O(1) when adding to front	O(1) when removing from front	O(n)	O(n)	O(1) when adding to front	O(1) when removing from front	O(n)	O(n)
Stack	O(n)	O(1) when adding to top	O(1), when removing from top	O(n)	O(n)	O(1) when adding to top	O(1) when removing from top	O(n)	O(n)

Runtimes of common Data Structures

13/07/2018