

DATA STRUCTURE	INSERTION	UPDATE	DELETION	SEARCH
Linked List	$O(1)$ when it is on the head, and $O(n)$ for the rest. At the beginning, update of pointers always happens.	$O(n)$ - Insertion involves updating required traversing to specific node.	$O(n)$ - Deletion involves updating pointers, traversing to specific node.	$O(n)$ - Linear search through node.
Stack	$O(1)$ - Insertion at the top.	No direct updating of elements in a stack.	Removing from the top.	$O(n)$ - Linear search, not a primary use of stack.
Queue	$O(1)$ - Insertion at the end	No direct updating of elements in a queue	Removing from the front	$O(n)$ - Linear search, not a primary use of a queue
Hash table	$O(1)$ average- Insertion involves hashing and placing in a bucket	$O(1)$ average- Updating involves recomputing the hash and modifying the element	$O(1)$ average- Deletion entails recomputing the hash and deleting the element	$O(1)$ average- Search encompasses computing the hash and checking corresponding bucket
Sort	It depends on algorithm (e.g., quick sort's $O(n \log n)$ and merge sort for inserting and sorting elements.	Elements are generally not updated individually after sorting.		Depends on algorithm (e.g., $O(\log n)$ for binary search) - Efficient search in sorted data
Dictionary	$O(1)$ average - Insertion involves hashing the key and placing in a bucket.	$O(1)$ average - Updating involves recomputing the hash and modifying the value.	$O(1)$ average- Deletion involves recomputing the hash and removing the key value pair	$O(1)$ average - Searching involves computing the hash and checking the corresponding bucket.