Summary of Complexities of Common Operations

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	Add	Remove	Random Access	Search
ArrayList	Beg/mid: O(n) End: O(1)	Beg/mid: O(n) End: O(1)	O(1)	O(n)
LinkedList (Doubly)	Mid: O(n) Beg/End: O(1)	Mid: O(n) Beg/End: O(1)	O(n)	O(n)
HashSet/HashMap	O(1)	O(1)	O(1) (see notes)	O(1)
TreeSet/TreeMap	O(lg(n))	O(lg(n))	O(lg(n)) (see notes)	O(lg(n))

Notes:

- HashSet and TreeSet have no concept of Random Access; HashMap and TreeMap support random access based on a key.
- HashSet and HashMap are unordered and should not be used if the positioning of the data must have meaning (for example, a hashset should not be used to implement a stack or queue, since the order in which data is inserted and removed needs to be remembered and respected)
- TreeSet and TreeMap are unordered, but traversing through will give a sorted ordering.
- Tree operations give O(lgn) when the tree is close to balanced; implementations in Java's Tree Set/Map use balanced trees.