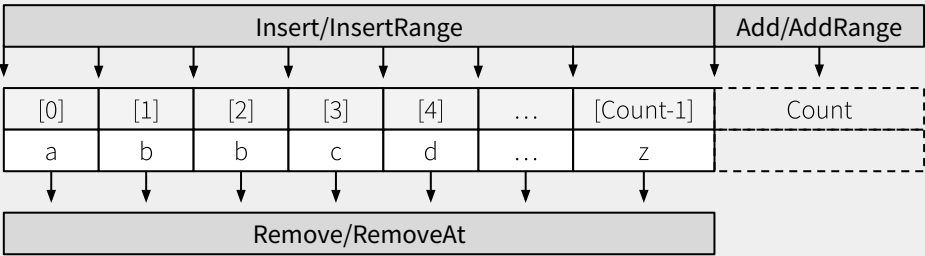
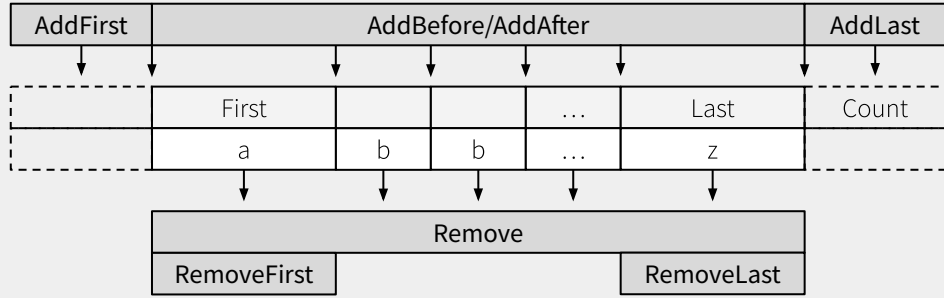
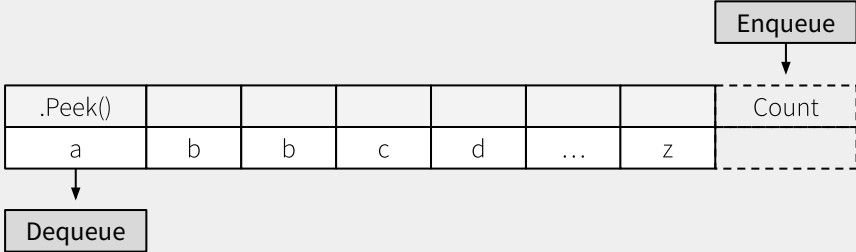
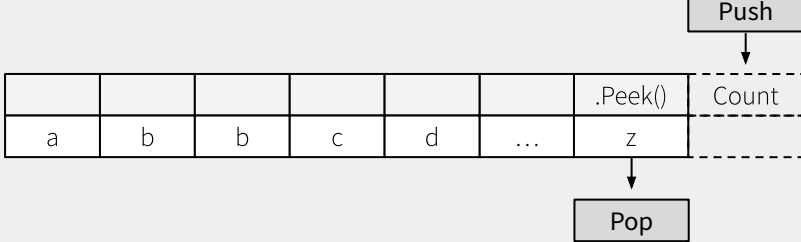
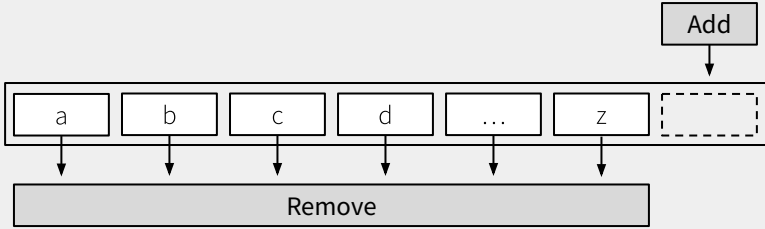
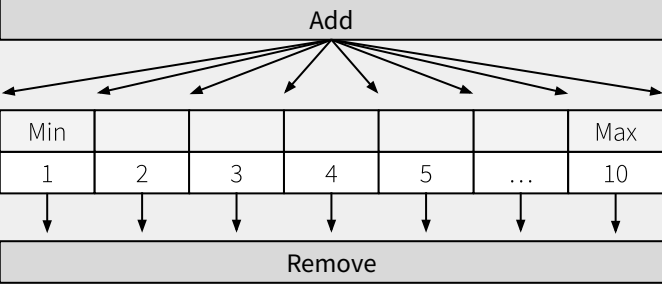
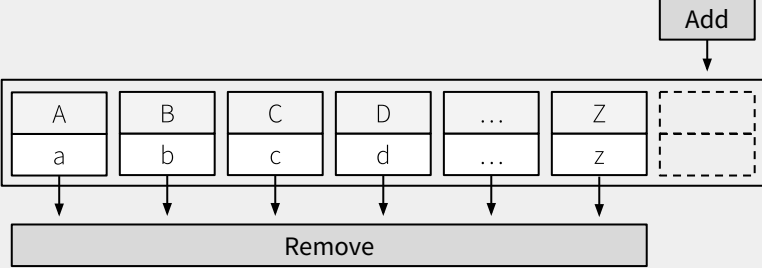
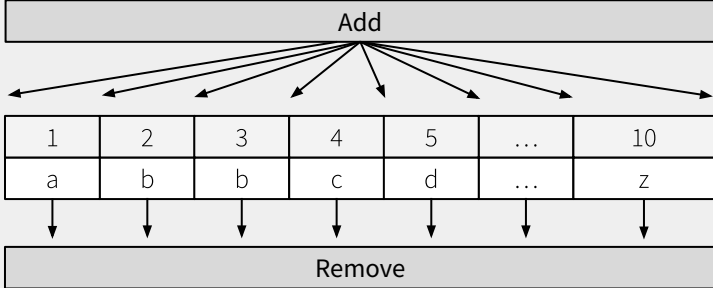
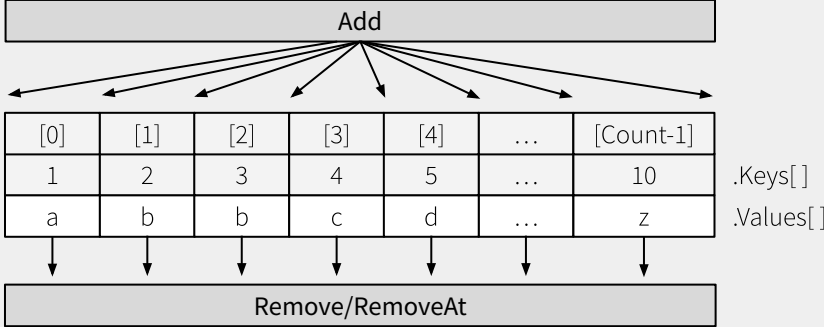


C# collection variants cheat sheet <small>Text (CC BY-SA 4.0) 2021 Matej Jan, The Indie Quest</small>														Add			Remove			Access				Contains		
														start	middle	end	start	middle	end	start	middle	end	foreach			
List ⊕ Used to store multiple values. ⊕ Easiest to use/most universal. ⊕ Fast access of items. ⊖ Slow when adding/removing from the middle. ⊖ Slow lookup whether an item is contained in the list.															slow	slow	fast	slow	slow	fast	fast	fast	fast	fast	fast	slow
LinkedList ⊕ Used to store multiple values. ⊕ Fast when adding/removing at any position. ⊖ Requires creation of nodes to add items. ⊖ Slow to access a specific item in the middle. ⊖ Slow lookup whether an item is contained in the list.															fast	fast	fast	fast	fast	fast	fast	slow	fast	fast	fast	slow
Queue ⊕ Used for first-in-first-out storage (FIFO). ⊖ No general list functionality.															/	/	fast	fast	/	/	fast	/	/	fast	/	
Stack ⊕ Used for last-in-first-out storage (LIFO) ⊖ No general list functionality.															/	/	fast	/	/	fast	/	/	fast	fast	/	
HashSet ⊕ Used to store unique values. ⊕ Prevents duplicates. ⊕ Offers set operations (union, intersection, difference). ⊕ Fast lookup whether an item is contained in the set. ⊖ Does not allow duplicates. ⊖ Items have undefined order. ⊖ No access by index.															fast			fast			/				fast	fast
SortedSet ⊕ Used to store unique values. ⊕ Items are sorted. ⊕ Prevents duplicates. ⊕ Offers set operations (union, intersection, difference). ⊕ Can retrieve a range of items between two values. ⊖ Does not allow duplicates. ⊖ Slower adding and lookup whether an item is contained in the set. ⊖ No access by index.															medium fast	medium fast	medium fast	medium fast	medium fast	medium fast	/	/	/	fast	medium fast	
Dictionary ⊕ Used to store values by unique keys. ⊕ Prevents duplicate keys. Allows duplicate values. ⊕ Fast lookup whether a key is contained in the dictionary. ⊖ Does not allow duplicate keys. ⊖ Items have undefined order. ⊖ No access by index. ⊖ Slow lookup whether a value is contained in the dictionary															fast			fast			fast				fast	key: fast value: slow
SortedDictionary ⊕ Used to store values by unique keys. ⊕ Items are sorted by key. ⊕ Prevents duplicate keys. Allows duplicate values. ⊕ Consistent speed of adding, removal, and retrieval. ⊖ Does not allow duplicate keys. ⊖ Slower adding, removal, and retrieval. ⊖ Slower lookup whether a key is contained in the dictionary, slow for values. ⊖ No access by index.															medium fast	medium fast	medium fast	medium fast	medium fast	medium fast	medium fast	medium fast	medium fast	medium fast	fast	key: medium fast value: slow
SortedList ⊕ Used to store values by unique keys. ⊕ Items are sorted by key. ⊕ Prevents duplicate keys. Allows duplicate values. ⊕ Fast retrieval of keys and values by index. ⊕ Uses less memory than SortedDictionary. ⊖ Does not allow duplicate keys. ⊖ Slower adding of items, slow when the item added is not the biggest item.. ⊖ Slow removing of items, ⊖ Slower lookup whether a key is contained in the dictionary, slow for values.															slow	slow	medium fast	slow	slow	slow	fast	fast	fast	fast	key: medium fast value: slow	