Feature / Data Structure	ArrayList	LinkedList	Vector	HashSet	LinkedHashSet	TreeSet	HashMap	LinkedHashMap	TreeMap
Implements	List	List, Deque	List	Set	Set	Set, NavigableSet	Map	Map	Map, NavigableMap
Duplicates Allowed	Yes	Yes	Yes	No	No	No	No	No	No
Order Maintained	Yes (Insertion)	Yes (Insertion)	Yes (Insertion)	No	Yes (Insertion)	Yes (Sorted)	No	Yes (Insertion)	Yes (Sorted)
Null Elements Allowed	Yes	Yes	Yes	Yes (1)	Yes (1)	No	Yes (1 null key)	Yes (1 null key)	No
Thread-Safe	No	No	Yes	No	No	No	No	No	No
Resizing/Auto-expanding	Yes	No	Yes	No	No	No	Yes (Rehashing)	Yes (Rehashing)	No
Underlying Data Structure	Resizable Array	Doubly Linked List	Resizable Array	Hash Table	Hash Table + Linked List	Red-Black Tree	Hash Table	Hash Table + Linked List	Red-Black Tree
Performance (Access)	O(1)	O(n)	O(1)	O(1)	O(1)	O(log n)	O(1)	O(1)	O(log n)
Performance (Insert/Delete)	O(n)	O(1)	O(n)	O(1)	O(1)	O(log n)	O(1)	O(1)	O(log n)
Sorting	No	No	No	No	No	Yes (Natural)	No	No	Yes (Natural)