

Overview of Ordered Collection Data Structures

Key

- ⊙ Excellent
- Very Good
- Fair
- Method does nothing

Ordered
Collection
Methods

Method	SortedArray	BinarySearchTree	RedBlackTree	SplayTree	Btree	B+Tree	SkipList
add(o)	●	●	○	○	○	○	○
addAll(c), per element	○	●	○	○	○	○	○
clear(), per element	⊙	⊙	⊙	⊙	⊙	⊙	⊙
contains(o)	○	●	○	○	○	○	○
ensureCapacity(x)	●	•	•	•	•	•	•
getLocator(o)	○	●	○	○	○	○	○
iterator(), iteratorAtEnd()	⊙	○	○	○	○	⊙	⊙
max(),min()	⊙	○	○	○	○	⊙	⊙
prededessor(o)	⊙	○	○	○	○	⊙	⊙
remove(o), retainAll(c), per element	●	●	○	○	○	○	○
successor(o)	⊙	○	○	○	○	⊙	⊙



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Other Issues

Locator Methods

Method	SortedArray	BinarySearchTree	RedBlackTree	SplayTree	Btree	B+Tree	SkipList
typical space	⊙	○	○	○	○	●	○
randomized							✓
amortized approach (occasionally restructures)				✓			
fast access to recently accessed elements				✓			
designed to minimize disk pages read					✓	✓	
advance()	⊙	○	○	○	○	⊙	⊙
get()	⊙	⊙	⊙	⊙	⊙	⊙	⊙
hasNext(), next()	⊙	○	○	○	○	⊙	⊙
remove()	●	●	○	○	○	○	⊙
retreat()	⊙	○	○	○	○	⊙	⊙

