The following table summarizes the principal classes in Java collections framework for quick reference:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ****Main collection classes**** | ****D**** | ****O**** | ****S**** | ****TS**** |
| ****ArrayList**** | ****Yes**** | ****Yes**** | ****No**** | ****No**** |
| ****LinkedList**** | ****Yes**** | ****Yes**** | ****No**** | ****No**** |
| ****Vector**** | ****Yes**** | ****Yes**** | ****No**** | ****Yes**** |
| ****HashSet**** | ****No**** | ****No**** | ****No**** | ****No**** |
| ****LinkedHashSet**** | ****No**** | ****Yes**** | ****No**** | ****No**** |
| ****TreeSet**** | ****No**** | ****Yes**** | ****Yes**** | ****No**** |
| ****HashMap**** | ****No**** | ****No**** | ****No**** | ****No**** |
| ****LinkedHashMap**** | ****No**** | ****Yes**** | ****No**** | ****No**** |
| ****Hashtable**** | ****No**** | ****No**** | ****No**** | ****Yes**** |
| ****TreeMap**** | ****No**** | ****Yes**** | ****Yes**** | ****No**** |

* ****D:**** Duplicate elements is allowed?
* ****O:**** Elements are ordered?
* ****S:**** Elements are sorted?
* ****TS:**** The collection is thread-safe?

From this table we can conclude the following characteristics of the main collections in Java Collection Frameworks:

* + All lists allow duplicate elements which are ordered by index.
  + All sets and maps do not allow duplicate elements.
  + All list elements are not sorted.
  + Generally, sets and maps do not sort its elements except TreeSet and TreeMap – which sort elements by natural order or by a comparator.
  + Generally, elements within sets and maps are not ordered, except for:   LinkedHashSet and LinkedHashMap have elements ordered by insertion order.
    - * TreeSet and TreeMap have elements ordered by natural order or by a comparator.
  + There are only two collections are thread-safe: Vectorand Hastable. The rest is not thread-safe.