Collections in Java

Collections in java is a framework that provides an architecture to store and manipulate the group of objects.

All the operations that you perform on a data such as searching, sorting, insertion, manipulation, deletion etc. can be performed by Java Collections.

Java Collection simply means a single unit of objects. Java Collection framework provides many interfaces (Set, List, Queue, Deque etc.) and classes (ArrayList, Vector, LinkedList, PriorityQueue, HashSet, LinkedHashSet, TreeSet etc).

What is Collection in java

Collection represents a single unit of objects i.e. a group.

What is framework in java

- provides readymade architecture.
- represents set of classes and interface.
- is optional.

What is Collection framework

Collection framework represents a unified architecture for storing and manipulating group of objects. It has:

1. Interfaces and its implementations i.e. classes
2. Algorithm

Do You Know ?

- What are the two ways to iterate the elements of a collection ?
- What is the difference between ArrayList and LinkedList classes in collection framework?
- What is the difference between ArrayList and Vector classes in collection framework?
- What is the difference between HashSet and HashMap classes in collection framework?
- What is the difference between HashMap and Hashtable class?
- What is the difference between Iterator and Enumeration interface in collection framework?
- How can we sort the elements of an object. What is the difference between Comparable and Comparator interfaces?
- What does the hashcode() method ?
- What is the difference between java collection and java collections ?

Hierarchy of Collection Framework

Let us see the hierarchy of collection framework.The **java.util** package contains all the classes and interfaces for Collection framework.
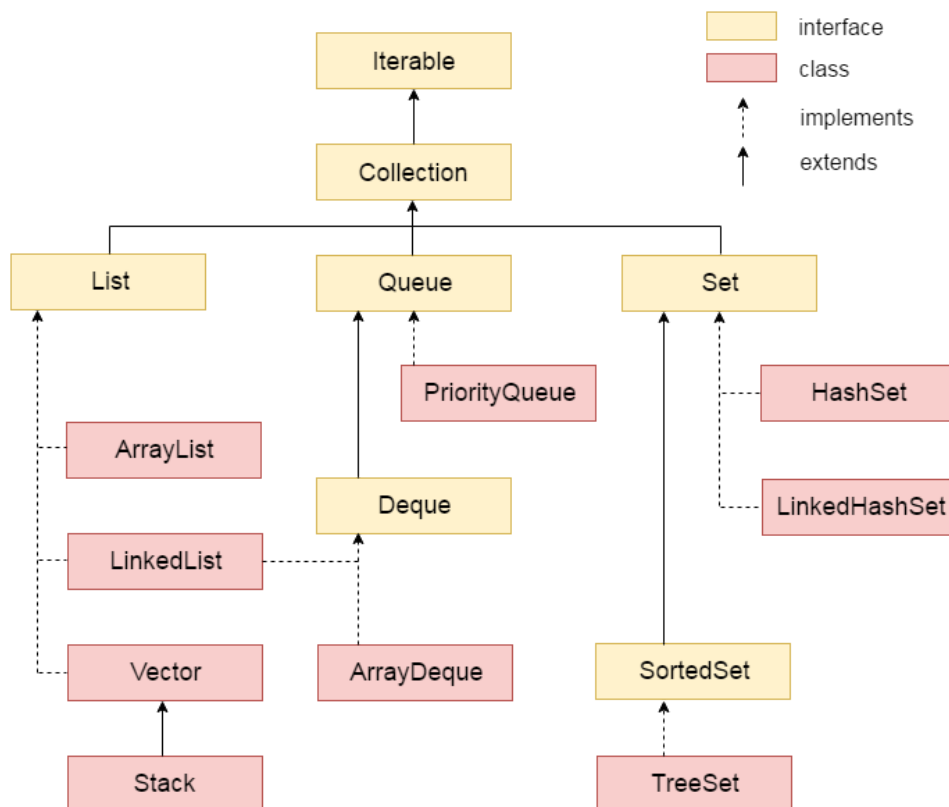
Methods of Collection interface

There are many methods declared in the Collection interface. They are as follows:

No.	Method	Description
1	public boolean add(Object element)	is used to insert an element in this collection.
2	public boolean addAll(Collection c)	is used to insert the specified collection elements in the invoking collection.
3	public boolean remove(Object element)	is used to delete an element from this collection.
4	public boolean removeAll(Collection c)	is used to delete all the elements of specified collection from the invoking collection.
5	public boolean retainAll(Collection c)	is used to delete all the elements of invoking collection except the specified collection.

6	public int size()	return the total number of elements in the collection.
7	public void clear()	removes the total no of element from the collection.
8	public boolean contains(Object element)	is used to search an element.
9	public boolean containsAll(Collection c)	is used to search the specified collection in this collection.
10	public Iterator iterator()	returns an iterator.
11	public Object[] toArray()	converts collection into array.
12	public boolean isEmpty()	checks if collection is empty.
13	public boolean equals(Object element)	matches two collection.
14	public int hashCode()	returns the hashcode number for collection.

Iterator interface

Iterator interface provides the facility of iterating the elements in forward direction only.

Methods of Iterator interface

There are only three methods in the Iterator interface. They are:

1. **public boolean hasNext()** it returns true if iterator has more elements.
2. **public object next()** it returns the element and moves the cursor pointer to the next element.
3. **public void remove()** it removes the last elements returned by the iterator. It is rarely used.

What we are going to learn in Java Collections Framework

1. ArrayList class

2. LinkedList class

3. List interface

4. HashSet class

5. LinkedHashSet class

6. TreeSet class

7. PriorityQueue class

8. Map interface

9. HashMap class

10. LinkedHashMap class

11. TreeMap class

12. Hashtable class

13. Sorting

14. Comparable interface

15. Comparator interface

16. Properties class in Java

← prev   next →

Share this page

facebook   twitter   google plus   pinterest   tumbler

Latest 4 Tutorials

CouchDB   Docker

Rails   RichFaces