ArrayList class remove(index) method

This is 14th post in series of ArrayList class. Previously we have seen [ArrayList introduction](http://data-structure-learning.blogspot.com/2015/08/arraylist-class-introduction-and-how-it.html), ArrayList class [constructors](http://data-structure-learning.blogspot.com/2015/08/arraylist-class-constructors.html), [add](http://data-structure-learning.blogspot.com/2015/09/arraylist-class-add-methods.html)() method, [addAll](http://data-structure-learning.blogspot.com/2015/09/arraylist-class-addall-methods.html)() method, [clear](http://data-structure-learning.blogspot.com/2015/09/arraylist-class-clear-method.html)() method, [indexOf](http://data-structure-learning.blogspot.com/2015/09/arraylist-class-indexof-method.html)() method, [contains](http://data-structure-learning.blogspot.com/2015/09/arraylist-class-contains-method.html)() method, forEach() method, get(), isEmpty(), iterator(), lastIndexOf() method and listIterator() method.

In this post we will see remove(int index) method. As we know that ArrayList is backed up by Object[] as a backing array. So we can get positional access using the index. This method removes the element at specified position and shifts any subsequent elements to left and also subtracts one from their index.

If index is <=0 or index >= size of list then IndexOutOfBoundException is thrown.

Following program has two scenarios. One in which it successfully removes the element from the List and another in which it throws IndexOutOfBoundException.

**package** org.example.collections.list.arraylist;

**import** java.util.ArrayList;

**import** java.util.List;

**public** **class** ArrayListRemoveIndex {

**public** List<String> arrayListAdd() {

List<String> names = **new** ArrayList<String>();

names.add("Ned");

names.add("Catelyn");

names.add("Rob");

names.add("Arya");

names.add("Sansa");

**return** names;

}

/\*\*

\* remove() method returns the old element present

\* at the index.

\* \*/

**public** **void** removeDemo(List<String> names, **int** index) {

String name = names.remove(index);

System.***out***.println(name+" removed");

}

**public** **static** **void** main(String[] args) {

ArrayListRemoveIndex removeIndex= **new** ArrayListRemoveIndex();

List<String> names = removeIndex.arrayListAdd();

//Prints Arya

removeIndex.removeDemo(names, 3);

//throws IndexOutOfBoundsException

removeIndex.removeDemo(names, 13);

}

}

Output

Arya removed

Exception in thread "main" java.lang.IndexOutOfBoundsException: Index: 13, Size: 4

at java.util.ArrayList.rangeCheck(Unknown Source)

at java.util.ArrayList.remove(Unknown Source)

at org.example.collections.list.arraylist.ArrayListRemoveIndex.removeDemo(ArrayListRemoveIndex.java:20)

at org.example.collections.list.arraylist.ArrayListRemoveIndex.main(ArrayListRemoveIndex.java:31)

That’s all on remove(int index) method.

In next post we will see the method remove(Object o) which removes the first occurrence of the object from list if it is present.