ArrayList In Java

Definition : An arrayList is a dynamic datastructure where the items are inserted and removed from the list.Like normal array it is not a static datastructure with fixed lenght.The array in the ArrayList is resizable and growable array.

There are three types of ArrayList object we can create:

1.Object with no initial size declaration
2.Object with initial Size declaration
3.Equivalent object for any collection objects

Adding Elements into ArrayList

1.Object with no initial size declaration :

Step1: Create an ArrayList object with no initial size declaration.
Ex: ArrayList <Integere> l=new ArrayList<Intger>();
(ArrayList of default size=10 is created.)
Step2:Insert the elements in to the array
l.add(1);l.add(2).....l.add(11);

- First the value “1” is added to the index=0,”2” is added to the index=1 place in the ArrayList the next elements also keep on adding to the next indexes until it reaches the index 10.
- When the Size of the Array reachs 10 then a new array of capacity=((current capacity X 3/4)+1) is created and all the elements are shifted to that new arraylist and the object is referred to that new array.
- The process continues for increment in adding the number of elements .
- But this is not an effecient process which will slow down the system because of continues creation of new array list and shifting elements .

2.Object with initial Size declaration :

Step1: Create an ArrayList object with initial size declaration.
Ex: ArrayList <Integere> l=new ArrayList<Intger>(20);
(ArrayList of size=20 is created.)
Step2:Insert the elements in to the array
l.add(1);l.add(2).....l.add(20);

- First the value “1” is added to the index=0,”2” is added to the index=1 place in the ArrayList the next

elements also keep on adding to the next indexes until element 20

- This is effecient than the ArrayList object with out initial size declaration because the array of the required size is created initially.

3.Equivalent object for any collection objects : If there is an inter conversion between ArrayList and any collections like LinkedList,vectorList,Treeset,hashset e.t.c we will create an Equivalent ArrayList object.

Step1: Create an equivalent ArrayList object or collection objects.
Ex: ArrayList <Integere> l=new ArrayList<Intger>(Collection c);
Step2 :All the elements in the collection objects are added to the ArrayList object .

Removing the Elements from the ArrayList :

Step1: l.remove(2);
The element in the index=2 is removed.
Step2: when the element in the index=2 is removed ,the index 2 becomes empty so the element in the index=3 shift to the index 2.The same shiting process continues for remov operation.