What is the difference between Array and ArrayList

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| --- | --- |
| Array | ArrayList |
| It can be single-dimensional or multidimensional  For and for each generally is used for iterating over arrays  length keyword can give the total size of the array.  It is static and of fixed length  Assignment Operator is used To Assign | It can only be single-dimensional  Here iterator is used to traverse  size() method is used to compute the size of ArrayList.  it is dynamic and can be increased or decreased in size when required.  Add() method is used |

What is the difference between TreeSet and HashSet

|  |  |
| --- | --- |
| HashSet | TreeSet |
| Hash set is implemented using HashTable  HashSet allows a null object  Hash set use equals method to compare two objects  HashSet does not maintain any order | The tree set is implemented using a tree structure  The tree set does not allow the null object. It throws the null pointer exception  Tree set use compare method for comparing two objects.  TreeSet maintains an object in sorted order |

**Converting ArrayList To Array**

1. Using Object[] toArray() method

* Object[] objects = al.toArray();

1. Using T[] toArray(T[] a)

* Integer[] arr = new Integer[al.size()];
* arr = al.toArray(arr);

1. Manual method to convert ArrayList using get() method

Integer[] arr = new Integer[al.size()];

// ArrayList to Array Conversion

for (int i = 0; i < al.size(); i++)

arr[i] = al.get(i);

**Array** To Array List

1. **Using Arrays.asList() method**

* List al = Arrays.asList(arrayObject);

1. Using Collections.addAll() method

* Collections.addAll(arrylistvariable,StringArray Variable);

1. Using Manual method to convert Array using add() method

List<String> al = new ArrayList<String>();

// Array to ArrayList Conversion

for (String geek : geeks)

al.add(geek);

**How to make Java ArrayList Read-Only**

* An ArrayList can be made read-only easily with the help of Collections.unmodifiableList() method**.**
* **Syntax:** Collections.unmodifiableList(ArrayList);

**How to synchronize ArrayList**

1. **Using Collections.synchronizedList() method**

List<String> list =Collections.synchronizedList(new ArrayList<String>());

1. **Using CopyOnWriteArrayList**

* CopyOnWriteArrayList<T> threadSafeList = new CopyOnWriteArrayList<T>();