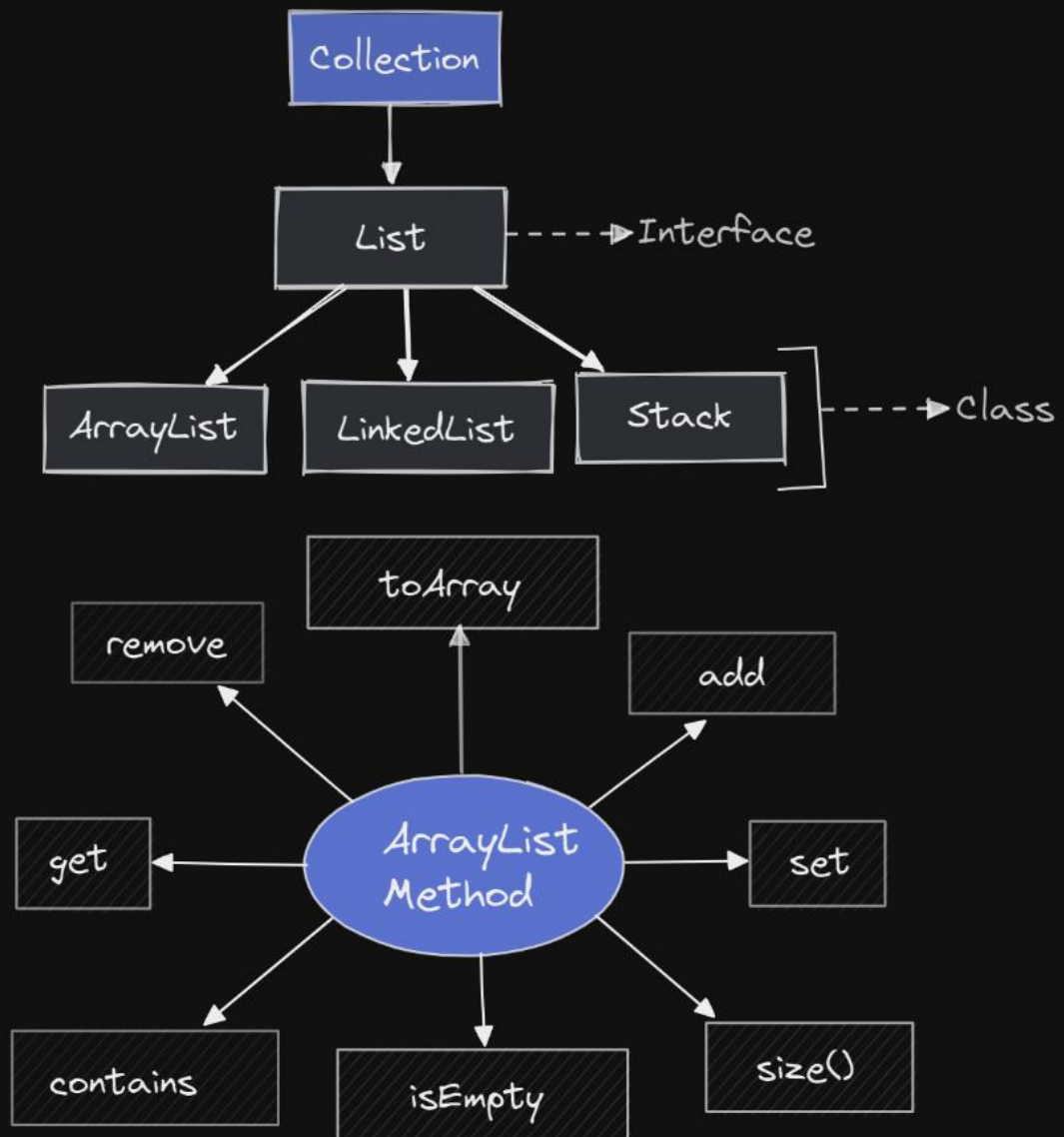


# ArrayList Notes:-

- Dynamic array is a random access, variable-size list data structure that allows elements to be added or removed.
- Unlike Array, ArrayList can automatically adjust its capacity when we add or remove element from it.

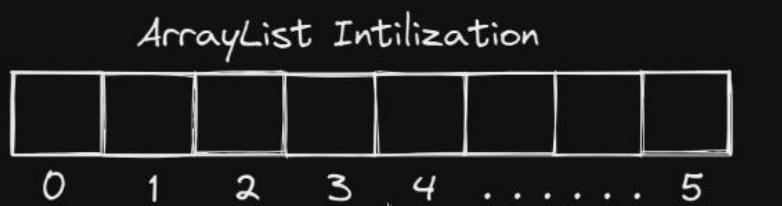


Method	ArrayList
Insert at last index	$O(1)$
Insert at given index	$O(N)$
Search by value	$O(N)$
Get by index	$O(1)$
Remove by index/Value	$O(N)$

- The insertion and the removal of random elements has complexity  $O(n)$  while the access to random elements remains constant  $O(1)$ .

# Internally working of ArrayList

- ◆ ArrayList is internally implemented by object array (object[]).
- ◆ when the initial capacity of object array is full, java create a new object[] array. With the size of two times of previous array.
- ◆ The copy the element from previous array to New Array.



Element in ArrayList



Initial capacity full



Create a new array and Moveing Elements to new array.

