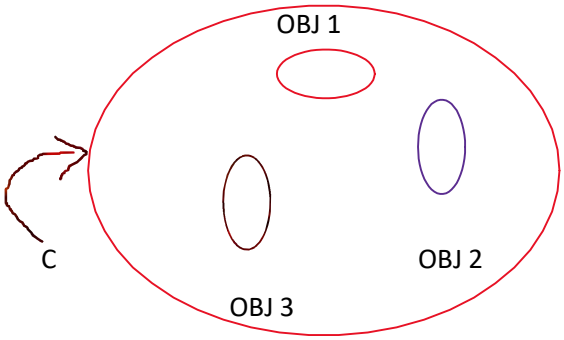
DAY-51

12 September 2023 15:45



- public boolean add(Object obj);
- public boolean remove(Object obj);
- public boolean contains(Object obj);
- public boolean addAll(collection c);
- public boolean removeAll(collection c)
- public boolean containsAll(collection c)
- public boolean retainAll(Collection c)
- public boolean clear();
- public boolean isEmpty();
- public int size();
- public object[] toArray();
- public Iterator iterator();

1. ADD
2. REMOVE
3. CHECK ANY OBJECT
4. EMPTY
5. COUNT

LIST (I)

- LIST(I) IS A SUB INTERFACE OF COLLECTION (I).
- IF WE WANT TO REPRESENT GROUP OF INDIVIDUAL OBJECTS AS SINGLE ENTITY WHERE DUPLICATES ARE ALLOWED AND INSERTION ORDER IS PRESERVED , THEN WE GO FOR LIST (I)

R	E	N	I	L	7	1	R
0	1	2	3	4	5	6	7

LIST SPECIFIC METHODS

- public void add(int index, Object obj);
- public void remove(int index);
- public boolean addAll(int index, Collection c);
- public int indexOf(Object obj);
- public int lastIndexOf(Object obj);
- public object set(int index, object obj);
- public ListIterator ListIterator();

ARRAY LIST PROPERTIES

- ARRAY LIST IS THE IMPLEMENATION CLASS OF LIST (I) INTRODUCED IN 1.2 V.
- UNDERLYING DATA STRUCTURE IS GROWABLE/EXPANDABLE ARRAY.
- DUPLICATE OBJECTS ARE ALLOWED
- INSERTION ORDER IS PRESERVED
- HETEROGENOUS OBJECTS ARE ALLOWED.
- NULL INSERTION IS POSSIBLE.
- IT IMPLEMENTS RAND ACCESS(I), CLONABLE (I) AND SERIALISABLE (I).

CONSTRUCTOR OF ARRAY LIST

ArrayList a1 = new ArrayList();

- Default capacity = 10;
- New capacity = current capacity * 3/2 + 1

Array :

1	2	3	4

Collection

1	2	3	4

1	2	3	4	5						

- ArrayList a1 = new ArrayList(int initial capacity);
- ArrayList a1 = new ArrayList(collection c);

```
package collectionPractice;

import java.util.ArrayList;

public class AlDemo
{

	public static void main(String[] args)
	{
		ArrayList a1 = new ArrayList();
		a1.add(1);//implicit boxing
```

```
                a1.add("java");
                a1.add('a');
                a1.add(3.3);
                a1.add(true);
                a1.add(1);
                a1.add(null);
                System.out.println("ArrayList object are ");
                System.out.println(a1);


        }

    }
```

```
package collectionpractice;

import java.util.ArrayList;

public class ALDemo
{

    public static void main(String[] args)
    {
        ArrayList a1 = new ArrayList();
        a1.add(1);
        a1.add("java");
        a1.add('a');
        System.out.println("before adding a2 to a1, a1 : "+a1);

        ArrayList a2 = new ArrayList();
        a2.add(10);
        a2.add("java");
        a2.add('s');
        a1.addAll(a2); //adding a2 to a1
        System.out.println("after adding a2 to a1, a2 : "+a1);
        System.out.println("after adding a2 to a1, a2 : "+a2);
        System.out.println(" is object java is present in a1 ?"+a1.contains("java"));
        System.out.println(" are all the objects of a2 is present in a1 ?"+a1.containsAll(a2));
        a1.remove("java");
        System.out.println("after removing java, a1 : "+a1);
        System.out.println("size of a1 is "+a1.size());
        a1.removeAll(a2);
        System.out.println(" after removing a2 from a1, a1 is "+a1);
        System.out.println("is a1 empty ?"+a1.isEmpty());
        a2.clear();
        System.out.println("after clearing a2, a2 : "+ a2);
        System.out.println(a1 instanceof ArrayList);


    }

}
```