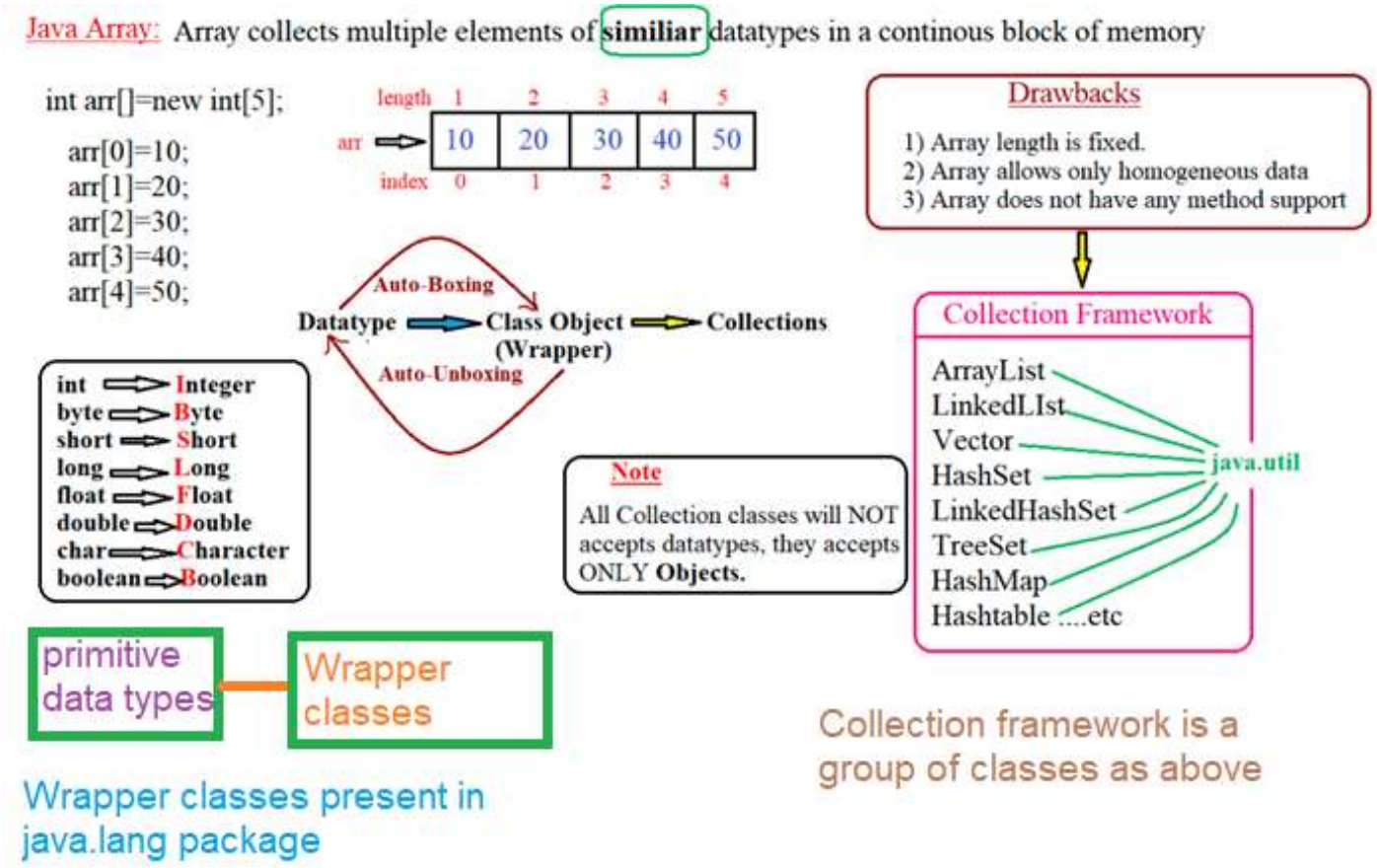



Length of array always starts with 1

The index position of an array specifies at which index position we need to store the data.

Index position starts from 0

The index position of an array used to pass the data in an array and retrieve the data from array.

```
1 package com.pack1 ;
2
3 public class ClassA
4 {
5     void meth1()
6     {
7         int arr[]= new int[5];
8         arr[0]=10;
9         arr[1]=20;
10        arr[2]=30;
11        arr[3]=40;
12        arr[4]=50;
13        System.out.println(arr[3]);
14
15    }
16    public static void main(String[] args)
17    {
18        new ClassA().meth1();
19    }
20 }
21
```

```
40
```

To overcome the drawbacks of array we had a concept collection frame works

## Collection Frame works

This topic is discussed after oops concept

Collection framework is nothing, but a group of classes combined like

ArrayList

LinkedList

Vector

HashSet

Linked HashSet

TreeSet

HashMap

Hashtable... etc

Above all are pre-defined classes.

The all classes are present in java.util package

The default capacity of the vector is 10

Vector v=new Vector();


Collections are growable in nature

Collection classes almost allow heterogenous data

Collections will have method support

Wrapper classes are objective representation for your primitive data types.

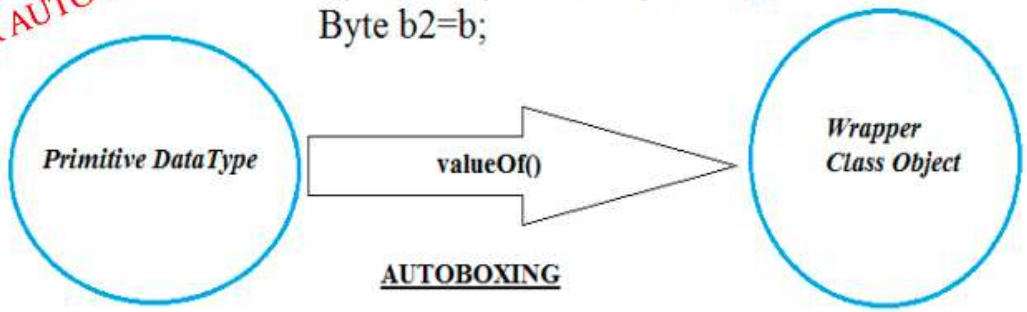
## Understanding Wrapper classes

- In java if we want to represent a group of objects in the form of an object then we have to use collection objects.
- The drawbacks which are present in an array we can overcome by using collection framework.
- Collection framework consists of a group of pre-defined classes which are present in java.util package.
- All collection objects allow a group of other objects, not primitive data types directly.
- If we want to store primitive data types in collection classes first, we need to convert the primitive data types into their respective object form and then we have to store those objects into collection frameworks.
- For 8 primitive data types there are 8 wrapper classes present.
- Wrapper Classes are present in java.lang package

COMPILER APPROACH FOR AUTO BOXING

**Example for autoboxing:**

```
byte b=10;
Byte b1=Byte.valueOf(b);
Byte b2=b;
```

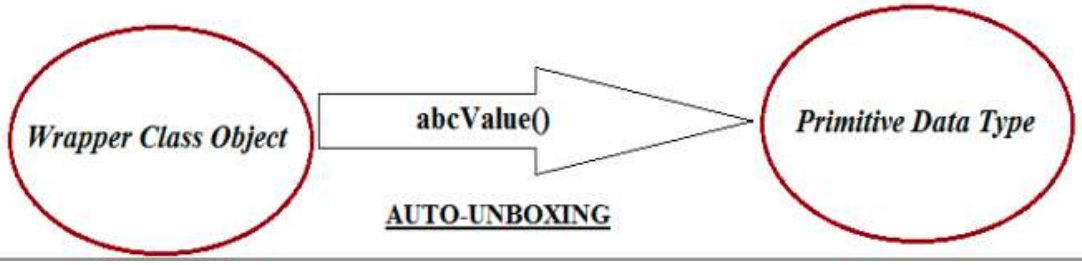



AUTOBOXING

COMPILER APPROACH FOR AUTO UN-BOXING

**Example for un-boxing:**

```
Byte b=new Byte("10");
byte b1=b.byteValue();
```




AUTO-UNBOXING