**AUTOBOXING & UNBOXING**

**Autoboxing** is a feature of the **Java** language introduced in **Java** 1.5. When a **Java** compiler makes an automatic conversion between the primitive types and their corresponding object wrapper class, it is called **autoboxing**. The process of creating a Wrapper class like Float from a primitive type like float is called boxing.

Converting an object of a wrapper type (Integer) to its corresponding primitive (int) value is called **unboxing**. The Java compiler applies unboxing when an object of a wrapper class is:

* Passed as a parameter to a method that expects a value of the corresponding primitive type.
* Assigned to a variable of the corresponding primitive type.

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| **AUTOBOXING BY DEFINING A CLASS** | **AUTOBOXING & UNBOXING** |
| **package** com.company;  **import** java.util.ArrayList; **class** intVirtual{  **private int myvalue**;   *//constructors* **public** intVirtual(**int** myvalue) {  **this**.**myvalue** = myvalue;  }   *//setter and getter* **public int** getMyvalue() {  **return myvalue**;  }  **public void** setMyvalue(**int** myvalue) {  **this**.**myvalue** = myvalue;  } } **public class** Main {   **public static void** main(String[] args) {  ArrayList<String> arrayList = **new** ArrayList<String>();  *//where String is a class* arrayList.add(**"Shit"**);  *// ArrayList<int> arrayList1 = new ArrayList<int>();  //this problem can be solved by  // 1. Defining a new class  //gives error, bcz int is not a class, but a preemtive type* ArrayList<intVirtual> arrayList1 = **new** ArrayList<intVirtual>();  arrayList1.add(**new** intVirtual(54));  } } | **package** com.company;  **import** java.util.ArrayList; **public class** Main {   **public static void** main(String[] args) {  *//Integer is a class, where int is a primitive type* Integer into = **new** Integer(5);  System.***out***.println(into);   *//boxing* ArrayList<Integer> intigo = **new** ArrayList<Integer>();  intigo.add(51);  System.***out***.println(intigo);   *//pusing data in the boxed integer* **for** (**int** i = 0; i<10; i++){  intigo.add(Integer.*valueOf*(i));  *//i has a primitive type of value,  // so .valueof converts the int type to Integer* }   *//unboxing* **for** (**int** i = 0; i < 10; i++){  System.***out***.println(i +**" --> "** + intigo.get(i).intValue());  }  } }  5 🡺 GENERAL int  [51] 🡺 BOXED Integer  0 --> 51  1 --> 0  2 --> 1  3 --> 2  4 --> 3  5 --> 4  6 --> 5  7 --> 6  8 --> 7  9 --> 8 |

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| **package** com.company;  **import** java.util.ArrayList; **public class** Main {   **public static void** main(String[] args) {  *//auto boxing allows to assign any int type  //directly with an object instance Integer* Integer intro = 15; *//Integer.valueOf(15)* System.***out***.println(intro);  *//unboxed automatically* **int** m = intro; *//intro.intValue()* Double dbl = 2.2;  System.***out***.println(intro);   *//autoboxing of Double* ArrayList<Double> dblo = **new** ArrayList<Double>();  **for** (**double** j=0.0; j < 10.0; j=j+0.5)  dblo.add(Double.*valueOf*(j));   *//unboxing* **for** (**int** j=0; j < dblo.size(); j++) {  **double** value = dblo.get(j).doubleValue();  System.***out***.println(value);  }  } } | 15  15  0.0  0.5  1.0  1.5  2.0  2.5  3.0  3.5  4.0  4.5  5.0  5.5  6.0  6.5  7.0  7.5  8.0  8.5  9.0  9.5 |