Wrapper Class

Java is not pure object oriented programming language, any language which make use of primitive data type are not a pure object oriented language.
Scala , Smalltalk , effel are examples for pure object oriented programming language.

Primitive data types are not objects, they don't belong to any classes.
Sometimes it is required to convert data type into object in java. A data type can be converted into an object and then used with the help of wrapper classes.

There are 8 wrapper classes in java:
Wrapper classes are defined in java.lang package

Data type	Wrapper Class
Byte	Byte
Short	Short
Int	Integer
Long	Long
Double	Double
Float	Float
Char	Character
Boolean	Boolean

In all the wrapper class toString(),hashcode(),equals methods of object class are over ridden.

```
// toString overriden
        Character ch1=new Character('a');
        String s1=ch1.toString();
        System.out.println(s1);

        Character ch2=new Character('b');
        String s2=ch2.toString();
        System.out.println(s2);

        // hashcode overriden
        int x=ch1.hashCode();
        int y=ch2.hashCode();

        //equals overriden
        boolean b=ch1.equals(ch2);
        System.out.println(b);
```

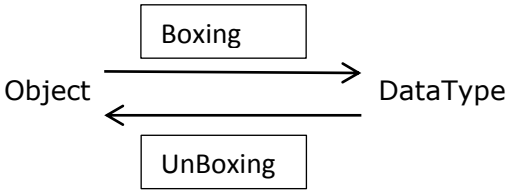
Boxing

Process of converting data type into an object is known as boxing.

```
//boxing
        Integer i=new Integer(10);
        System.out.println(i);
```

Unboxing

Process of converting an object into a datatype is known as unboxing.



Unboxing is done with the help of XXXValue() method.

```
//unboxing
Character ch3=new Character('a');
char ch4=ch3.charValue();
System.out.println(ch4);
```

Autoboxing:

Process of converting datatype into an object implicitly is known as autoboxing.

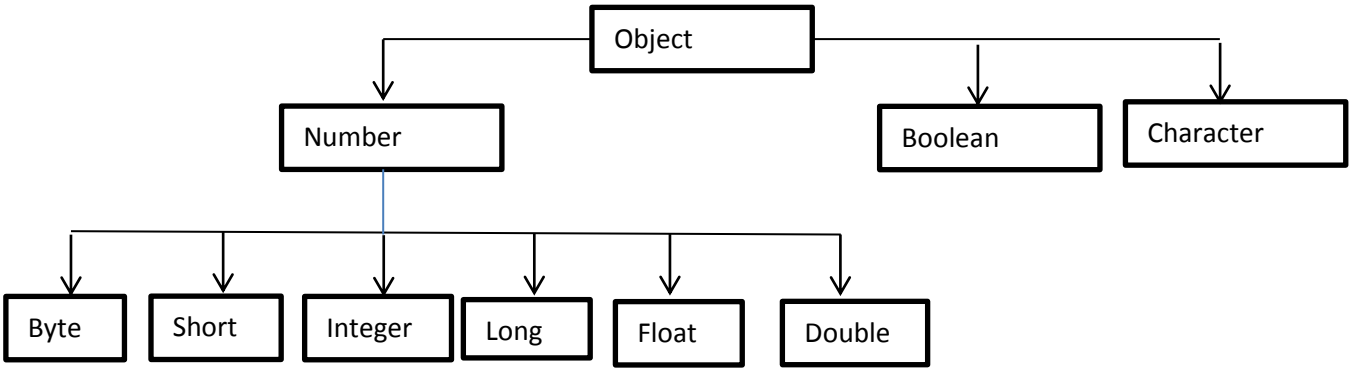
```
    int x1=10;
Integer i1=x1;
```

Autounboxing

Process of converting an object into datatype implicitly is known as object autounboxing

```
Integer i2=new Integer(10);
int i3=i2;
```

Wrapper Class Hierarchy



Wrapper class in java collection framework

1. Wrapper class is used in collection framework.
2. In collection we can add only object type of data.
3. If primitive data added in collection framework then autoboxing happens implicitly.

Parsing

Converting string type of data to number format is called as parsing. We make use of ParseXXX method which are present in wrapper class.

String s=”123”;
int i=Integer.parseInt(s);

Parsing should be done carefully else we may get exception.
XXXValue() -> Non-static member function
ParseXXX()->Static member function

```
//parsing
String a1="100";
String a2="10";
int b1=Integer.parseInt(a1);
int b2=Integer.parseInt(a2);
int b3=b1+b2;
System.out.println(b3);
```