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# Overriding toString() in Java

This post is similar to Overriding equals method in Java. Consider the following Java program:

```
// file name: Main.java

class Complex {
    private double re, im;

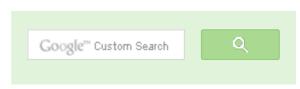
    public Complex(double re, double im) {
        this.re = re;
        this.im = im;
    }
}

// Driver class to test the Complex class
public class Main {
    public static void main(String[] args) {
        Complex cl = new Complex(10, 15);
        System.out.println(cl);
    }
}
```

#### Output:

#### Complex@19821f

The output is, class name, then 'at' sign, and at the end hashCode of object. All classes in Java inherit from the Object class, directly or indirectly (See point 1 of this). The Object class has some basic methods like clone(), toString(), equals(),.. etc. The default toString() method in Object prints "class name @ hash code". We can override toString() method in our class to print proper output. For example, in the following code toString() is overridden to print "Real + i Imag" form.





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```
// file name: Main.java
class Complex {
    private double re, im;
    public Complex(double re, double im) {
        this.re = re;
        this.im = im;
    /* Returns the string representation of this Complex number.
       The format of string is "Re + iIm" where Re is real part
       and Im is imagenary part.*/
    @Override
    public String toString() {
        return String.format(re + " + i" + im);
// Driver class to test the Complex class
public class Main {
    public static void main(String[] args) {
        Complex c1 = new Complex (10, 15);
        System.out.println(c1);
Output:
10.0 + i15.0
```

In general, it is a good idea to override toString() as we get get proper output when an object is used in print() or println().

#### References:

Effective Java by Joshua Bloch

Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above.



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```
Shubham Mohanka • 2 months ago
class Complex {
private double re, im;
public Complex(double re, double im) {
this.re = re:
this.im = im;
public void toString() {
System.out.println(re + " + i" + im);
public class Test {
public static void main(String[] args) {
Complex c1 = new Complex(10, 15);
c1.toString();
This code gives an error that-toString() in Complex cannot override toString() in
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