

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 c1 = new Complex(10, 15);
        System.out.println(c1);
    }
}
```

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 imaginary 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 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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with the constructor...



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() i Please explain.

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yup very clearly indicated !!!

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