

## Assignment – 5

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### Compile Time and Runtime Polymorphism

An example of compile time polymorphism is:- Method Overloading

#### **PROGRAM:**

```
class DisplayOverloading
{
    public void disp(char c)
    {
        System.out.println(c);
    }
    public void disp(char c, int num)
    {
        System.out.println(c + " "+num);
    }
}

class Sample
{
    public static void main(String args[])
    {
        DisplayOverloading obj = new DisplayOverloading();
        obj.disp('a');
        obj.disp('a',10);
    }
}
```

#### **OUTPUT:**

a  
a 10

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An example of run time polymorphism is:- Method Overriding.

### **PROGRAM:**

```
public class X
{
    public void methodA() //Base class method
    {
        System.out.println ("hello, I'm methodA of class X");
    }
}

public class Y extends X
{
    public void methodA() //Derived Class method
    {
        System.out.println ("hello, I'm methodA of class Y");
    }
}

public class Z
{
    public static void main (String args []) {
        X obj1 = new X(); // Reference and object X
        X obj2 = new Y(); // X reference but Y object
        obj1.methodA();
        obj2.methodA();}
}
```

### **OUTPUT:**

hello, I'm methodA of class X

hello, I'm methodA of class Y