

1. Objects and Classes

An **object** encapsulates **data members** and **method members**. Objects are **instances** of **classes** and a class specifies the data and method members of objects. A class is like a **blueprint** for objects of the class and is used to construct the object in memory at runtime.



1. Objects and Classes :: Example Class *Point*

```
//*****  
// CLASS: Point (declared in Point.java)  
//*****  
public class Point {  
    // A point in the Cartesian plane is located at ( $x$ ,  $y$ ) where  $x$  and  $y$  form the  
    // coordinates of the point.  
    private double x;  
    private double y;  
    // Constructor.  
    public Point(double initX, double initY) {  
        setX(initX);  
        setY(initY);  
    }  
    // Accessor method for  $x$ .  
    public double getX() {  
        return x;  
    }  
    // Accessor method for  $y$ .  
    public double getY() {  
        return y;  
    }  
}
```

1. Objects and Classes :: Example Class *Point* (continued)

```
// Mutator method for x.
public void setX(double newX) {
    x = newX;
}

// Mutator method for y.
public void setY(double newY) {
    y = newY;
}
}
```