

## CSE 143x Section Handout #6 Cheat Sheet

### Field (8.1) *(data inside each object)*

**type name;**

### Method (8.2) *(behavior inside each object)*

```
public type name (parameters) {  
    statements;  
}
```

### toString method (8.6) *(called when an object is printed)*

```
public String toString() {  
    code that produces/returns  
    a String;  
}
```

### Client Program *(a program that uses objects)*

```
public class PointMain {  
    public static void main(String[] args) {  
        Point p1 = new Point(5, -2);  
        Point p2 = new Point(14, 6);  
  
        p1.translate(4, 8);  
  
        double d = p1.distance(p2);  
        System.out.println(p1 + " t " +  
            p2 + " = " + d);  
    }  
}
```

---

### Example complete class:

```
import java.awt.*;    // for Graphics  
  
// A Point object represents a location on the (x, y) plane.  
public class Point {  
    int x;  
    int y;  
  
    // Returns the distance between this point and the given other Point p2.  
    public double distance(Point p2) {  
        int dx = x - p2.x;  
        int dy = y - p2.y;  
        return Math.sqrt(dx * dx + dy * dy);  
    }  
  
    // Shifts this Point's x/y position by the given amounts.  
    public void translate(int dx, int dy) {  
        x += dx;  
        y += dy;  
    }  
  
    // Returns a String representation of this Point, such as "(5, 18)".  
    public String toString() {  
        return "(" + x + ", " + y + ")";  
    }  
}
```