```
 1  package edu.lmu.cs.networking;
 2
 3  import java.io.*;
 4
 5  class Point2d implements Serializable {
 6      private int x;
 7      private int y;
 8      private boolean debug;
 9      public void dprint (String s) { if (debug) System.out.println("Debug: " + s); }
10      public void setDebug (boolean b) { debug = b; }
11      public Point2d (int px, int py) {
12          x = px;
13          y = py;
14          debug = false;
15      }
16      public Point2d () { this (0, 0); }
17      public Point2d (Point2d pt) {
18          x = pt.getX();
19          y = pt.getY();
20      }
21      public void setX(int px) {
22          dprint ("setX(): Changing value of X from " + x + " to " + px );
23          x = px;
24      }
25      public int getX() { return x; }
26      public void setY(int py) {
27          dprint ("setY(): Changing value of Y from " + y + " to " + py );
28          y = py;
29      }
30      public int getY() { return y; }
31      public void setXY(int px, int py) {
32          setX(px);
33          setY(py);
34      }
35      public double distanceFrom (Point2d pt) {
36          int dx = Math.abs(x - pt.getX());
37          int dy = Math.abs(y - pt.getY());
38          dprint ("distanceFrom(): deltaX = " + dx);
39          dprint ("distanceFrom(): deltaY = " + dy);
40          return Math.sqrt((dx * dx) + (dy * dy));
41      }
42      public double distanceFromOrigin () {
43          return distanceFrom (new Point2d ( ));
44      }
45      public String toStringForXY() {
46          String str = "(" + x + ", " + y;
47          return str;
48      }
49      public String toString() {
50          String str = toStringForXY() + ")";
51          return str;
52      }
53      public static void main (String[] args) {
54          Point2d  pt1 = new Point2d ();
55          System.out.println ("pt1 = " + pt1);
56          Point2d pt2 = new Point2d(4, 3);
57          System.out.println ("pt2 = " + pt2);
58          pt1.setDebug(true);
59          System.out.println ("Distance from " + pt1 + " to " + pt2 + " is " +
            pt1.distanceFrom(pt2));
60          System.out.println ("Distance from " + pt2 + " to " + pt1 + " is " +
            pt2.distanceFrom(pt1));
61          System.out.println ("Distance from " + pt1 + " to the origin (0, 0) is " +
            pt1.distanceFromOrigin());
62          System.out.println ("Distance from " + pt2 + " to the origin (0, 0) is " +
            pt2.distanceFromOrigin());
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63            pt1.setXY(3, 5);
64            System.out.println ("pt1 = " + pt1);
65            pt2.setXY(-3, -5);
66            System.out.println ("pt2 = " + pt2);
67            System.out.println ("Distance from " + pt1 + " to " + pt2 + " is " +
              pt1.distanceFrom(pt2));
68            System.out.println ("Distance from " + pt2 + " to " + pt1 + " is " +
              pt2.distanceFrom(pt1));
69            pt1.setDebug(false);
70            System.out.println ("Distance from " + pt1 + " to the origin (0, 0) is " +
              pt1.distanceFromOrigin());
71            System.out.println ("Distance from " + pt2 + " to the origin (0, 0) is " +
              pt2.distanceFromOrigin());
72        }
73    }
```