```java
package lthdt.lab2;

import java.awt.Point;

public class Point2D {
    //Attribute/Fields/Member Data
    private double x,y;
    //Constructors
    public Point2D() {
        // TODO Auto-generated constructor stub
        x=0;
        y=0;
    }
    public Point2D(double x, double y)
    {
        this.x =x;
        this.y =y;
    }
    public Point2D(Point2D p)
    {
        this.x=p.x;
        this.y=p.y;
    }
    //Getters
    public double getX()
    {
        return x;
    }
    public double getY()
    {
        return y;
    }
    //Methods
    //Overloads distance
```

```
35      //Instance Methods
36      public double distance(double x, double y)
37      {
38          return Math.sqrt( Math.pow(this.x-x,2) +
    Math.pow(this.y-y,2));
39      }
40      public double distance(Point2D p)
41      {
42          return Math.sqrt( Math.pow(this.x-p.x,2) +
    Math.pow(this.y-p.y,2));
43      }
44      //Class Methods
45      public static double distance(double x1, double y1,
    double x2, double y2)
46      {
47          return Math.sqrt( Math.pow(x1-x2,2) +
    Math.pow(y1-y2,2));
48      }
49      public static double distance(Point2D p1, Point2D p2)
50      {
51          return Math.sqrt( Math.pow(p1.x-p2.x,2) +
    Math.pow(p1.y-p2.y,2));
52      }
53      //
54      public void move(double x, double y)
55      {
56          this.x = x;
57          this.y = y;
58      }
59      public void move(Point2D p)
60      {
61          this.x = p.x;
62          this.y = p.y;
63      }
```

```
64     public void translate(double dx, double dy)
65     {
66         this.x +=dx;
67         this.y +=dy;
68     }
69     public boolean equals(Point2D p)
70     {
71         return (this.x==p.x)&&(this.y==p.y);
72     }
73     @Override
74     public String toString() {
75         // TODO Auto-generated method stub
76         return "Point2D["+x+","+y+"]";
77     }
78}
79
```