4. A class called MyPoint, which models a 2D point with x and y coordinates, is designed as follows:

- **Two instance variables x (int) and y (int).**
- **A default (or "no-arg") constructor that construct a point at the default location of (0, 0).**
- **A overloaded constructor that constructs a point with the given x and y coordinates.**
- **A method setXY() to set both x and y.**
- **A method getXY() which returns the x and y in a 2-element int array.**
- **A toString() method that returns a string description of the instance in the format "(x, y)".**
- **A method called distance(int x, int y) that returns the distance from this point to another point at the given (x, y) coordinates**
- **An overloaded distance(MyPoint another) that returns the distance from this point to the given MyPoint instance (called another)**
- **Another overloaded distance() method that returns the distance from this point to the origin (0,0) Develop the code for the class MyPoint. Also develop a JAVA program (called TestMyPoint) to test all the methods defined in the class.**

Mypoint.java

```
Imort java.util.*;
public class MyPoint
{
    private int x = 0;
    private int y = 0;

    public MyPoint()
    {
        this.x = 0;
        this.y = 0;
    }

    public MyPoint(int x, int y)
    {
        this.x = x;
        this.y = y;
    }
    public double distance(int x, int y)
    {
        int xDiff = this.x - x;
        int yDiff = this.y - y;
        return Math.sqrt(xDiff*xDiff + yDiff*yDiff);
    }
    public double distance(MyPoint another)
    {
        int xDiff = this.x - another.x;
        int yDiff = this.y - another.y;
        return Math.sqrt(xDiff*xDiff + yDiff*yDiff);
    }

       // Overloaded method to calculate distance to the origin (0,0)
       public double distance()
       {
        return Math.sqrt(x * x + y * y);
       }
```

```
    public int getX()
    {
        return x;
    }

    public void setX(int x)
    {
        this.x = x;
    }

    public int getY()
    {
        return y;
    }

    public void setY(int y)
    {
        this.y = y;
    }

    public void setXY(int x, int y)
    {
        this.x = x;
        this.y = y;
    }

    public String toString()
    {
        return "(" + x + ", " + y + ")";
    }

    public static void main(String[] args)
    {
        // Creating MyPoint instances

        Scanner scan=new Scanner(System.in);
        System.out.println("Enter Point 1 coordinates: ");
        int x1=scan.nextInt();
        int y1=scan.nextInt();
        System.out.println("Enter Point 2 coordinates: ");
        int x2=scan.nextInt();
        int y2=scan.nextInt();
        MyPoint point1 = new MyPoint(x1, y1);
        MyPoint point2 = new MyPoint(x2, y2);
        System.out.println("Point 1 coordinates: " +point1.toString());
        System.out.println("Point 2 coordinates: " +point2.toString());
        System.out.println("Distance from Point 1 to ("+x2+", "+y2+"): " +
point1.distance(x2, y2));
        System.out.println("Distance from Point 1 to Point 2: " +
point1.distance(point2));
        System.out.println("Distance from Point 1 to the origin: " +
point1.distance());
    }
}
```