Class FlowerTurtle


```
1  /**
2   * Class FlowerTurtle defines abstract class turtle, with the ability to
   draw a flower
3   *
4   * @author  Nathan Chen
5   * @author  Benjamin Tu
6   * @period  2
7   * @version 10-11-18
8   * @teacher Coglianese
9   */
10 import edu.fcps.Turtle;
11 import java.awt.Color;
12 public class FlowerTurtle extends Turtle
13 {
14     private double mySize;
15     private Color myColor;
16
17     /**
18      * Constructor allowing for no arguments
19      */
20     public FlowerTurtle()
21     {
22         mySize = 50.0;
23         myColor = Color.RED;
24     }
25
26     /**
27      * Constructor that accepts three arguments
28      *
29      * @param   x   Double for the initial x position
30      * @param   n   Double size of petals
31      * @param   c   Color class for the turtle
32      */
33     public FlowerTurtle(double x, double n, Color c)
34     {
35         super(x, 300.0, 90.0);
36         mySize = n;
37         myColor = c;
38     }
39
40     /**
41      * Sets the size of the petals to defined double
42      *
43      * @param   n   Petal size
44      */
45     public void setSize(double n)
46     {
47         mySize = n;
48     }
```

```
49
50      /**
51       * Sets the color to defined Color
52       *
53       * @param   c   Color of pen
54       */
55      public void setColor(Color c)
56      {
57          myColor = c;
58      }
59
60      /**
61       * Private method that draws petals from current position
62       */
63      private void drawPetals() //starts and ends at center facing north
64      {
65          super.setColor(myColor);
66          super.setPenDown(true);
67          for (int k = 0; k < (int) mySize; k++)
68          {
69              turnRight(360.0 / mySize);
70              super.forward(mySize);
71              super.back(mySize);
72          }
73          super.setPenDown(false);
74      }
75
76      /**
77       * Private method that draws stem below current position
78       */
79      private void drawStem() //starts at top of stem facing south, ends at
    bottom
80      {
81          super.setColor(Color.GREEN);
82          super.turnRight(180.0);
83          super.forward(mySize);
84          super.setPenDown(true);
85          super.forward(mySize * 1.5);
86          super.back(mySize * 0.4);
87          super.turnRight(135.0);
88          super.forward(mySize * 0.5);
89          super.back(mySize * 0.5);
90          super.turnRight(90.0);
91          super.forward(mySize);
92          super.back(mySize);
93          super.setPenDown(false);
94      }
95
96      /**
```

```
97        * Overrider for abstract drawShape that draws a flower
98        */
99       public void drawShape()
100      {
101          super.clear();
102          drawPetals();
103          drawStem();
104      }
105  }
```