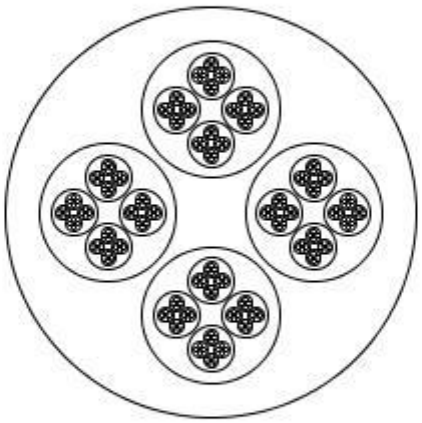
Alexandre Rodrigues 54472

TPC 2

kochCircle

```
package trabalho2;


// At Eclipse Oxygen it gave me an access problem:
//    "Access restriction: The type 'ImageIO' is not API"


// The solution is to change the access restrictions. Go to the properties of your Java project.
// There, go to "Java Build Path", tab "Libraries".
// There, expand the library entry, select "Access rules", "Edit..." and "Add..." a
// "Resolution: Accessible" with a corresponding rule pattern. For me was "javax/**"
// ref: https://stackoverflow.com/questions/25222811
/**
 *
 * @author Alexandre Rodrigues 54472
 *
 */
public class Trabalho2 {


   // directions:               n, ne,  e, se,  s, sw,  w, nw
   private static int[] xDirs = { 0,  1,  1,  1,  0, -1, -1, -1};
   private static int[] yDirs = {-1, -1,  0,  1,  1,  1,  0, -1};


   public static void kochCircle(double x0, double y0, double size, int iter ) {
         if (iter==0)
                  return;
```

```
        StdDraw.circle(x0, y0, size);

        for(int i=0; i<8; i+=2)
                kochCircle(x0+xDirs[i]*(size/2), y0+yDirs[i]*(size/2), size/3, iter-1);
    }


    ////////////////////////////////////////////

    public static void main(String[] args) {

        double windowSize = 128;

        // class StdDraw @ introcs.cs.princeton.edu/java/stdlib/StdDraw.java
        StdDraw.setXscale(0, windowSize);
        StdDraw.setYscale(0, windowSize);
        StdDraw.clear(StdDraw.WHITE);
        StdDraw.setPenColor(StdDraw.BLACK);

        kochCircle(windowSize/2, windowSize/2, windowSize/5, 5);
        }
}
```



planeTree

```
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   // directions:              n, ne,  e, se,  s, sw,  w, nw
   private static int[] xDirs = { 0,  1,  1,  1,  0, -1, -1, -1};
   private static int[] yDirs = {-1, -1,  0,  1,  1,  1,  0, -1};

   public static void planeTree(double x0, double y0, double length, int iter) {
         if (iter==0)
               return;

         StdDraw.line(x0 + xDirs[6]*length, y0, x0 + xDirs[2]*length, y0);
         StdDraw.line(x0 + xDirs[6]*length, y0 + yDirs[0]*length , x0 + xDirs[6]*length,
y0 + yDirs[4]*length);
         StdDraw.line(x0 + xDirs[2]*length, y0 + yDirs[0]*length , x0 + xDirs[2]*length,
y0 + yDirs[4]*length);

         for(int i=1; i<8; i+=2)
               planeTree(x0+xDirs[i]*(length), y0+yDirs[i]*(length), length/3, iter-1);
   }

   ////////////////////////////////////////////
```

```
    public static void main(String[] args) {

        double windowSize = 128;

        // class StdDraw @ introcs.cs.princeton.edu/java/stdlib/StdDraw.java
        StdDraw.setXscale(0, windowSize);
        StdDraw.setYscale(0, windowSize);
        StdDraw.clear(StdDraw.WHITE);
        StdDraw.setPenColor(StdDraw.BLACK);

        planeTree(windowSize/2, windowSize/2, windowSize/5, 5);
    }
}
```