GUI – Random Walk

**Purpose**

This lab was designed to introduce swing components.

**Description**

The program draws a pixel-sized "random walk" that moves in random directions on a DrawingPanel until it has moved a certain distance away from its starting location. A random walk visualizes the idea of taking repeated steps in random directions. Read more about interesting mathematical properties of random walks here:

<http://en.wikipedia.org/wiki/Random_walk>

At each step, the walker randomly moves its position up, down, left, or right by 1 pixel. The walker should choose between these four choices randomly with equal probability. The walk ends when the walker reaches the perimeter of the circle (when it walks so far that its distance from the center is greater than or equal to the circle's radius). The point class has a distance method.

Draw a single pixel by filling a 1x1 rectangle. For example, to draw a pixel a Point variable p's coordinates, you'd say:

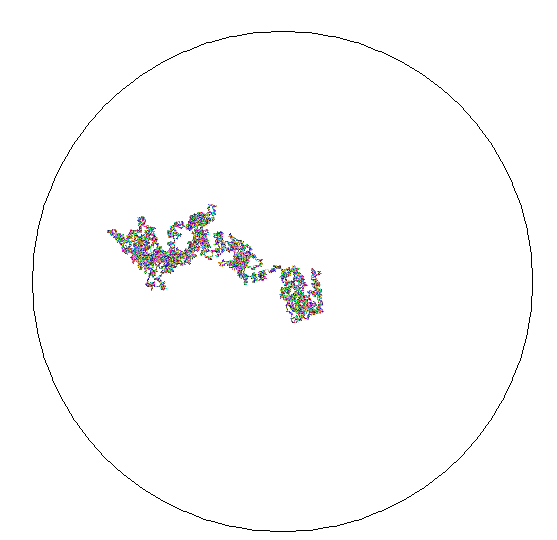
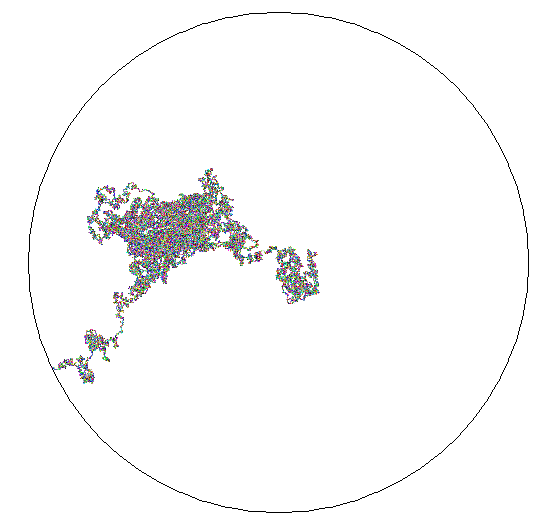
g.fillRect(p.x, p.y, 1, 1); // draw one pixel at p's position

These random walk images also look a little like **Rorshach ink blot** tests.

**Program Shell**

RandomWalk.java

**Sample Execution**

** **