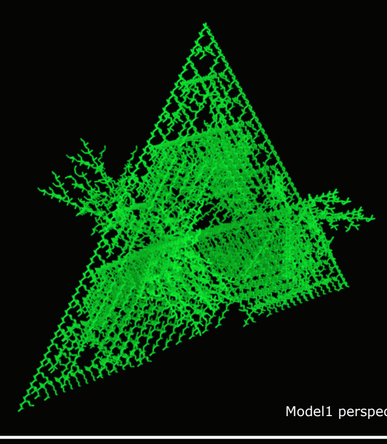
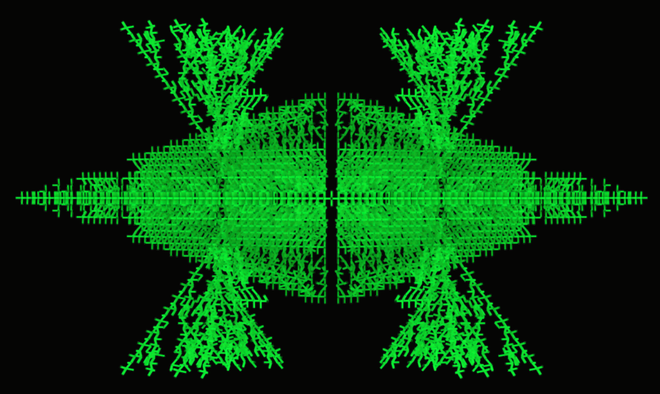
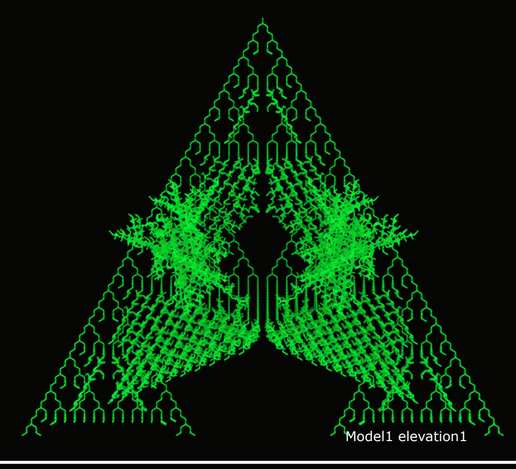
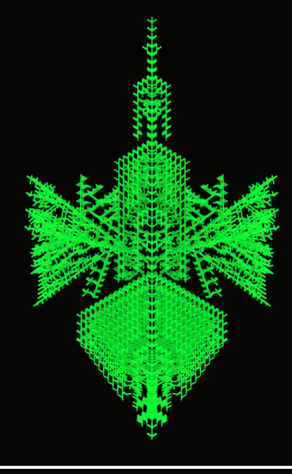
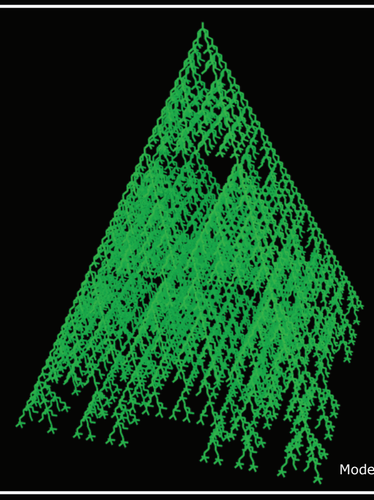
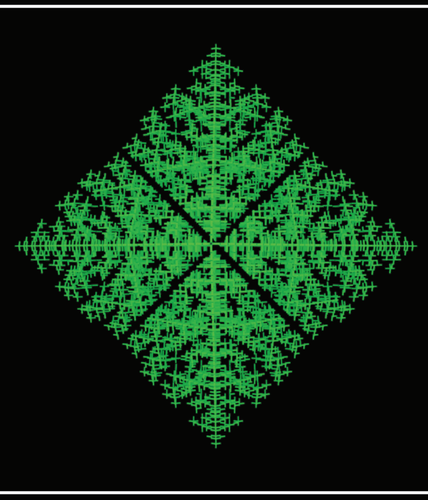

Model1 perspective

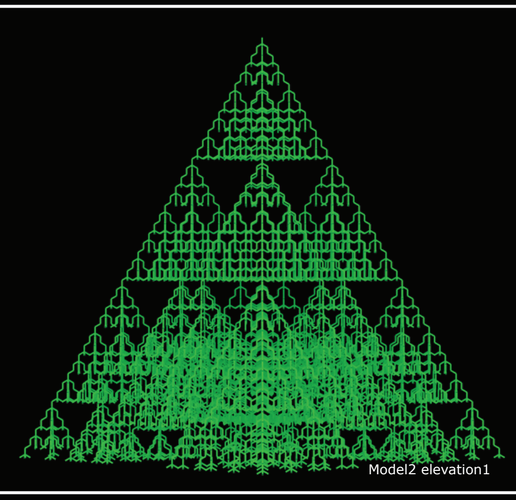

Model1 plan

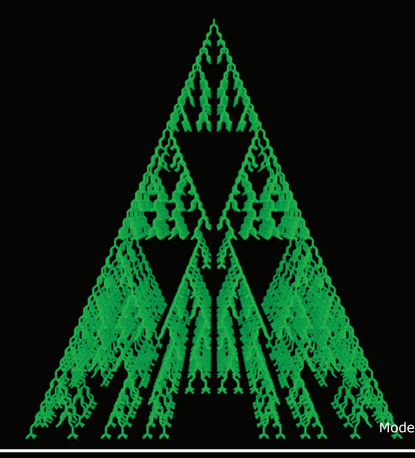

Model1 elevation1

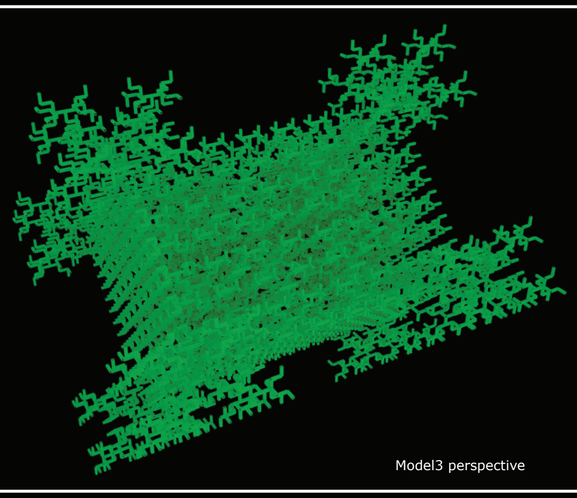

Model1 elevation2

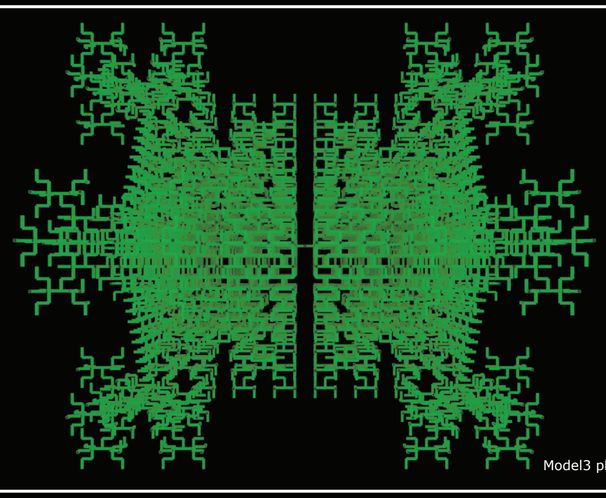

Model2 perspective

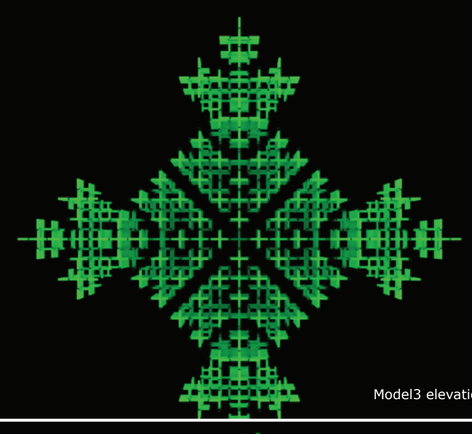

Model2 plan

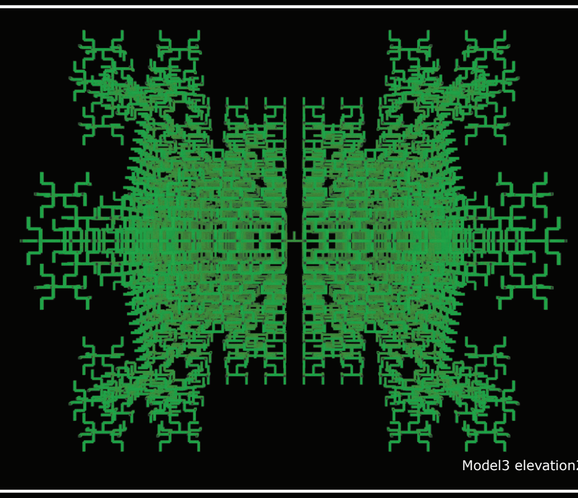

Model2 elevation1

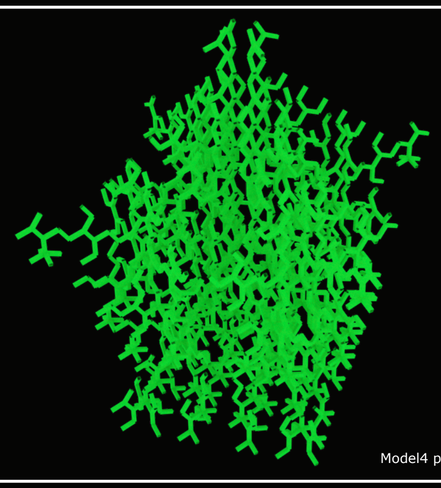

Model2 elevation2

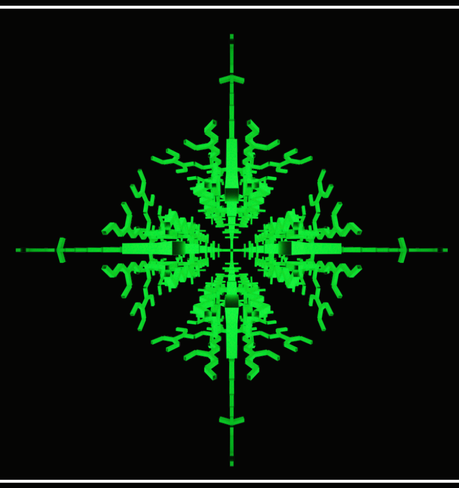

Model3 perspective

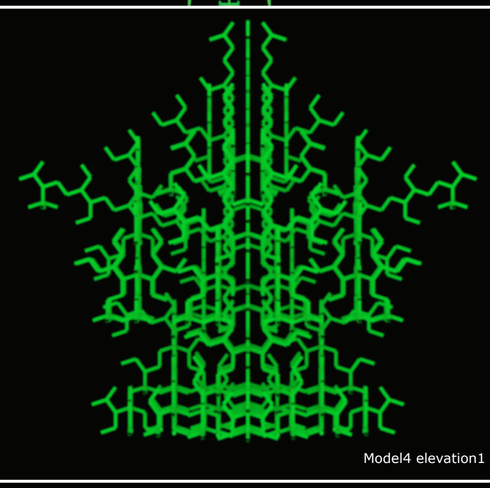

Model3 plan


Model3 elevation1

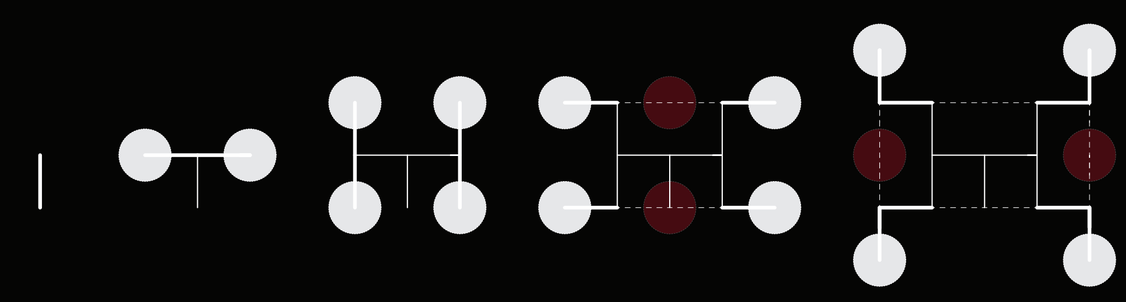

Model3 elevation2


Model4 perspective


Model4 plan


Model4 elevation1

Model4 elevation2



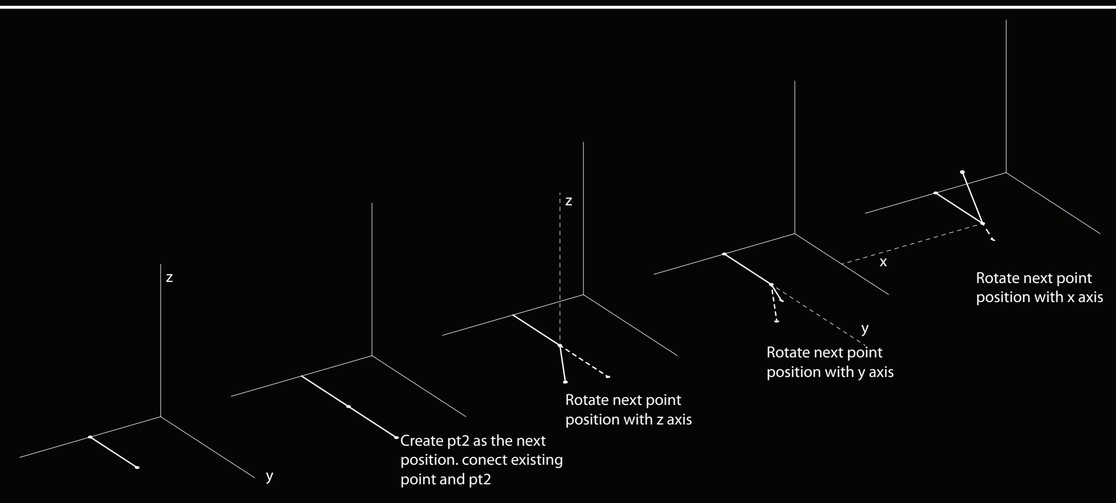
1.
Create crv between pt1 and pt2

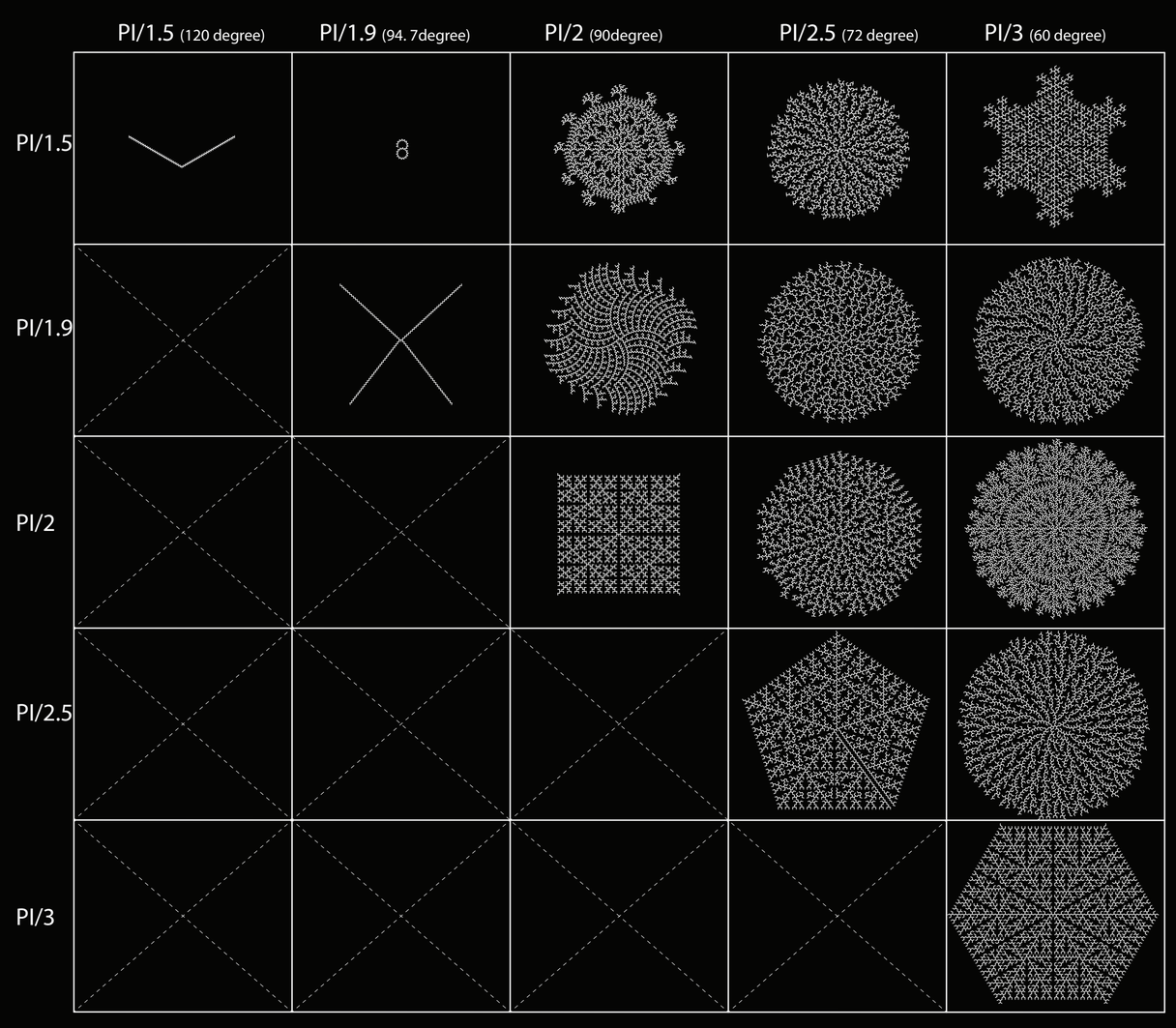
2.
Finding colison if there is doesn't create crv, if there is doesn't create.

3.
Finding colison if there is doesn't create crv,

4.
If there is doesn't create.

5.
Continue this process






```
import processing.opengl.*;
import igeo.*;

void setup() {
  size(800, 450, IG.GL);
  IG.duration(100);


  new LineAgent(new IVec(0,0,0), new IVec(0,0,-1));
}

static class LineAgent extends IAgent {
  static double length = 2;
  static double clearance = 1.99;

  IVec pt1, pt2;
  boolean isColliding=false;

  LineAgent(IVec pt, IVec dir) {
    pt1 = pt;
    pt2 = pt.dup().add(dir.dup().len(length));
  }

void interact(ArrayList < IDynamics > agents) {
  super.interact(agents);

  if (time == 0) { //only in the first time
    for (int i=0; i < agents.size() && !isColliding; i++) {
      if (agents.get(i) instanceof LineAgent) {
        LineAgent lineAgent =
          (LineAgent)agents.get(i);
        if (lineAgent != this) { //agents include "this"
          // checking clearance of end point
          if (lineAgent.pt2.dist(pt2) < clearance) {
            isColliding=true;
          }
        }
      }
    }
  }
}

void update() {
  super.update();

if (isColliding) {

  del();

}

else if (time == 0) { //if not colliding
 IG.squarePipe(pt1, pt2, .5).clr(0,.5,.1);


  IVec dir = pt2.diff(pt1);



  if (IRandom.percent(100)) {
    new LineAgent(pt2, dir.dup().rot(IG.zaxis, PI/1.5));
  }
  if (IRandom.percent(100)) {
    new LineAgent(pt2, dir.dup().rot(IG.zaxis, -PI/1.5));
  }

    if (IRandom.percent(100)) {
      new LineAgent(pt2, dir.dup().rot(IG.
yaxis, PI/1.5));
    }
    if (IRandom.percent(100)) {
      new LineAgent(pt2, dir.dup().rot(IG.
yaxis, -PI/1.5));
    }

   if (IRandom.percent(100)) {
      new LineAgent(pt2, dir.dup().rot(IG.
xaxis, PI/3));
    }
    if (IRandom.percent(100)) {
      new LineAgent(pt2, dir.dup().rot(IG.
xaxis, -PI/3));
    }
      }}}
```

TAKASHI OHIRA