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main.cpp
1  #include <GL/glut.h>
2
3  struct Point {
4      GLfloat x, y, z;
5      Point(GLfloat x, GLfloat y, GLfloat z) : x(x), y(y), z(z) {}
6      Point midpoint(Point p) {return Point((x+p.x)/2, (y+p.y)/2, (z+p.z)/2);}
7  };
8
9  void reshape(GLint w, GLint h) {
10     glViewport(0, 0, w, h);
11     glMatrixMode(GL_PROJECTION);
12     glLoadIdentity();
13     gluPerspective(100.0, GLfloat(w)/GLfloat(h), 10.0, 1500.0);
14 }
15
16 void display() {
17     glClear(GL_COLOR_BUFFER_BIT | GL_DEPTH_BUFFER_BIT);
18 }
19
20 void generateMorePoints() {
21
22     static Point vertices[4] = {
23         Point(-250, -225, -200),
24         Point(-150, -225, -700),
25         Point(250, -225, -275),
26         Point(0, 450, -500)
27     };
28     static Point lastPoint = vertices[0];
29
30     glBegin(GL_POINTS);
31     for (int i = 0; i <= 500; i++) {
32         lastPoint = lastPoint.midpoint(vertices[rand() % 4]);
33         GLfloat intensity = (700 + lastPoint.z) / 500.0;
34         glColor3f(intensity, intensity, 0.25);
35         glVertex3f(lastPoint.x, lastPoint.y, lastPoint.z);
36     }
37 }
```

"C:\Users\PAVANI\OneDrive\Desktop\Graphics and animations\startopengl\bin\Debug\startopengl.exe"

Sierpinski Tetrahedron

