



```
1  #include <GL/glut.h>
2
3  struct Point {
4      GLfloat x, y;
5      Point(GLfloat x = 0, GLfloat y = 0): x(x),
6      Point midpoint(Point p) {return Point((x +
7  });
8
9
10 void display() {
11
12     glClear(GL_COLOR_BUFFER_BIT);
13
14     static Point vertices[] = {Point(0, 0), Point(500, 0), Point(250, 433)};
15
16     static Point p = vertices[0];
17     glBegin(GL_POINTS);
18     for (int k = 0; k < 100000; k++) {
19         p = p.midpoint(vertices[rand() % 3]);
20         glVertex2f(p.x, p.y);
21     }
22     glEnd();
23     glFlush();
24 }
25
26
27 void init() {
28
29     glClearColor(0.25, 0.0, 0.2, 1.0);
30     glColor3f(0.6, 1.0, 0.0);
31
32
33     glMatrixMode(GL_PROJECTION);
34     glLoadIdentity();
35     glOrtho(0.0, 500.0, 0.0, 500.0, 0.0, 1.0);
```

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

Sierpinski Triangle

