Practical 7: - Koch Curve

Code:

#include <GL/glut.h>

#include <math.h>

GLfloat oldx = -0.7, oldy = 0.5;

void drawkoch(GLfloat dir, GLfloat len, GLint iter) {

GLdouble dirRad = 0.0174533 \* dir;

GLfloat newX = oldx + len \* cos(dirRad);

GLfloat newY = oldy + len \* sin(dirRad);

if (iter==0){

glVertex2f(oldx, oldy);

glVertex2f(newX, newY);

oldx = newX;

oldy = newY;

}

else{

iter--;

drawkoch(dir, len, iter);

dir += 60.0;

drawkoch(dir, len, iter);

dir -= 120.0;

drawkoch(dir, len, iter);

dir += 60.0;

drawkoch(dir, len, iter);

}

}

void display() {

glClear(GL\_COLOR\_BUFFER\_BIT);

glBegin(GL\_LINES);

glColor3f(0.0, 1.0, 0.0);

drawkoch(0.0, 0.04, 3);

drawkoch(-120.0, 0.04, 3);

drawkoch(120.0, 0.04, 3);

glEnd();

glFlush();

}

int main(int argc, char\*\* argv)

{

glutInit(&argc, argv);

glutInitDisplayMode(GLUT\_SINGLE | GLUT\_RGB);

glutInitWindowSize(500, 500);

glutInitWindowPosition(0, 0);

glutCreateWindow("Koch Curve");

glutDisplayFunc(display);

glutMainLoop();

return 0;

}

Output:

