**Practical 7**

Generate fractal patterns using i) Bezier ii) Koch Curve

**Program Code:-**

**Code for Koch Curve -**

#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--;

//draw the four parts of the side \_/\\_

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();

}