import com.jogamp.opengl.GL2;

import com.jogamp.opengl.GLAutoDrawable;

import com.jogamp.opengl.GLCapabilities;

import com.jogamp.opengl.GLEventListener;

import com.jogamp.opengl.GLProfile;

import com.jogamp.opengl.awt.GLCanvas;

import com.jogamp.opengl.glu.GLU;

import javax.swing.JFrame;

public class Demo\_19301186\_Task\_3 implements GLEventListener {

private GLU glu;

public void display(GLAutoDrawable drawable) {

final GL2 gl = drawable.getGL().getGL2();

MidpointCircle(gl, 0, 30, 5);

MidpointCircle(gl, 5, 30, 5);

MidpointCircle(gl, 10, 30, 5);

MidpointCircle(gl, 15, 30, 5);

MidpointCircle(gl, 20, 30, 5);

MidpointCircle(gl, 25, 30, 5);

MidpointCircle(gl, 30, 30, 5);

MidpointCircle(gl, 35, 30, 5);

MidpointCircle(gl, 40, 30, 5);

MidpointCircle(gl, 0, 30, 5);

MidpointCircle(gl, 0, 25, 5);

MidpointCircle(gl, 0, 20, 5);

MidpointCircle(gl, 0, 15, 5);

MidpointCircle(gl, 0, 10, 5);

MidpointCircle(gl, 0, 5, 5);

MidpointCircle(gl, 0, 0, 5);

MidpointCircle(gl, 0, -5, 5);

MidpointCircle(gl, 0, -10, 5);

MidpointCircle(gl, 0, -15, 5);

MidpointCircle(gl, 0, -20, 5);

MidpointCircle(gl, 0, -25, 5);

MidpointCircle(gl, 0, -30, 5);

MidpointCircle(gl, 0, -35, 5);

MidpointCircle(gl, 10, -40, 5);

MidpointCircle(gl, 15, -40, 5);

MidpointCircle(gl, 20, -40, 5);

MidpointCircle(gl, 25, -40, 5);

MidpointCircle(gl, 30, -40, 5);

MidpointCircle(gl, 35, -40, 5);

MidpointCircle(gl, 40, -35, 5);

MidpointCircle(gl, 40, -30, 5);

MidpointCircle(gl, 40, -25, 5);

MidpointCircle(gl, 40, -20, 5);

MidpointCircle(gl, 40, -15, 5);

MidpointCircle(gl, 35, -10, 5);

MidpointCircle(gl, 30, -10, 5);

MidpointCircle(gl, 25, -10, 5);

MidpointCircle(gl, 20, -10, 5);

MidpointCircle(gl, 15, -10, 5);

MidpointCircle(gl, 10, -10, 5);

}

public void dispose(GLAutoDrawable arg0) {

// method body

}

public void init(GLAutoDrawable gld) {

GL2 gl = gld.getGL().getGL2();

glu = new GLU();

gl.glClearColor(0.0f, 0.0f, 0.0f, 0.0f);

gl.glViewport(-100, -50, 50, 100);

gl.glMatrixMode(GL2.GL\_PROJECTION);

gl.glLoadIdentity();

glu.gluOrtho2D(-100.0, 100.0, -100.0, 100.0);

}

public void reshape(GLAutoDrawable arg0, int arg1, int arg2, int arg3, int arg4) {

// method body

}

public void MidpointCircle(GL2 gl, int x\_new , int y\_new , int radius){

gl.glPointSize(4.0f);

gl.glColor3d(1, 0, 1);

gl.glBegin(GL2.GL\_POINTS);

int d = 1-radius;

int x = 0;

int y = radius;

CirclePoints(gl, x, y, x\_new, y\_new);

while(x<y){

if(d<0){

d = d+2\*x+3;

x = x+1;

}

else{

d = d+2\*x-2\*y+5;

y = y-1;

x = x+1;

}

CirclePoints(gl, x, y, x\_new, y\_new);

}

gl.glEnd();

}

public void CirclePoints(GL2 gl, int x, int y, int x1, int y1){

gl.glVertex2f(x+x1, y+y1);

gl.glVertex2f(y+x1, x+y1);

gl.glVertex2f(y+x1, -x+y1);

gl.glVertex2f(x+x1, -y+y1);

gl.glVertex2f(-x+x1, -y+y1);

gl.glVertex2f(-y+x1, -x+y1);

gl.glVertex2f(-y+x1, x+y1);

gl.glVertex2f(-x+x1, y+y1);

}

public static void main(String[] args) {

final GLProfile profile = GLProfile.get(GLProfile.GL2);

GLCapabilities capabilities = new GLCapabilities(profile);

// The canvas

final GLCanvas glcanvas = new GLCanvas(capabilities);

Demo\_19301186\_Task\_3 l = new Demo\_19301186\_Task\_3 ();

glcanvas.addGLEventListener(l);

glcanvas.setSize(800, 800);

// creating frame

final JFrame frame = new JFrame("Last digit of my ID(19301186)-6");

// adding canvas to frame

frame.getContentPane().add(glcanvas);

frame.setSize(frame.getContentPane().getPreferredSize());

frame.setVisible(true);

}

}