#include<GL/gl.h>

#include<GL/glut.h>

#include<stdio.h>

int ww=600, wh=500;

float bgCol[3] = {1.0,1.0,1.0};

float intCol[3] = {1.0,1.0,0.0};

float fillCol[3] = {1.0,0.0,1.0};

void SetPixel(int pointx, int pointy, float f[3]) {

glBegin(GL\_POINTS);

glColor3fv(f);

glVertex2i(pointx, pointy);

glEnd();

glFlush();

}

void getPixel(int x, int y, float pixels[3]) {

glReadPixels(x, y, 1.0, 1.0, GL\_RGB, GL\_FLOAT, pixels);

}

void drawPolygon(int x1, int y1, int x2, int y2) {

glColor3f(1.0,1.0,0.0);

glBegin(GL\_POLYGON);

glVertex2i(x1,y1);

glVertex2i(x1,y2);

glVertex2i(x2,y2);

glVertex2i(x2,y1);

glEnd();

glFlush();

}

void display() {

glClearColor(0.0,0.0,0.0,1.0);

glClear(GL\_COLOR\_BUFFER\_BIT);

drawPolygon(200,200,300,300);

glFlush();

}

void floodFill4(int x, int y, float oldColor[3], float newColor[3]) {

float color[3];

getPixel(x, y, color);

if(color[0]==oldColor[0] && color[1]==oldColor[1] && color[2]==oldColor[2]) {

SetPixel(x, y, newColor);

floodFill4(x+1, y, oldColor, newColor);

floodFill4(x-1, y, oldColor, newColor);

floodFill4(x, y+1, oldColor, newColor);

floodFill4(x, y-1, oldColor, newColor);

}

}

void mouse(int btn, int state, int x, int y) {

if(btn==GLUT\_LEFT\_BUTTON && state==GLUT\_DOWN) {

int xi = x;

int yi = (wh - y);

floodFill4(xi, yi, intCol, fillCol);

}

}

void myInit() {

glViewport(0,0,ww,wh);

glMatrixMode(GL\_PROJECTION);

glLoadIdentity();

gluOrtho2D(0.0, (GLdouble)ww, 0.0, (GLdouble)wh);

glMatrixMode(GL\_MODELVIEW);

}

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

glutInit(&argc, argv);

glutInitDisplayMode(GLUT\_SINGLE | GLUT\_RGB);

glutInitWindowSize(ww, wh);

glutCreateWindow("Flood Fill Recursive");

glutDisplayFunc(display);

myInit();

glutMouseFunc(mouse);

glutMainLoop();

return 0;

}