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PROGRAM

```
#include <iostream>
#include <math.h>
#include <GL/glut.h>
using namespace std;
void init(){
glClearColor(1.0,1.0,1.0,1.0);
glMatrixMode(GL_PROJECTION);
gluOrtho2D(0,640,0,480);
}
void flood_it(int x, int y, float* fillColor, float* bc){
float color[3];
glReadPixels(x,y,1.0,1.0,GL_RGB,GL_FLOAT,color);
if((color[0]!=bc[0] || color[1]!=bc[1] || color[2]!=bc[2])&&(
color[0]!=fillColor[0] || color[1]!=fillColor[1] || color[2]!=fillColor[2])){
glColor3f(fillColor[0],fillColor[1],fillColor[2]);
glBegin(GL_POINTS);
glVertex2i(x,y);
glEnd();
glFlush();
flood_it(x+1,y,fillColor,bc);
flood_it(x-2,y,fillColor,bc);
flood_it(x,y+2,fillColor,bc);
flood_it(x,y-2,fillColor,bc);
flood_it(x-1,y-1,fillColor,bc);
flood_it(x-1,y+1,fillColor,bc);
flood_it(x+1,y-1,fillColor,bc);
flood_it(x+1,y+1,fillColor,bc);
}
}
void mouse(int btn, int state, int x, int y){
y = 480-y;
```

```
if(btn==GLUT_LEFT_BUTTON)
{
if(state==GLUT_DOWN)
{
float bCol[] = {1,0,0};
float color[] = {0,0,1};
flood_it(x,y,color,bCol);
}
}
}
void world(){
glLineWidth(3);
glPointSize(2);
glClear(GL_COLOR_BUFFER_BIT);
glColor3f(1,0,0);
glBegin(GL_LINE_LOOP);
glVertex2i(250,150);
glVertex2i(150,200);
glVertex2i(350,190);
glVertex2i(150,300);
glEnd();
glFlush();
}
int main(int argc, char** argv){
glutInit(&argc, argv);
glutInitDisplayMode(GLUT_SINGLE|GLUT_RGB);
glutInitWindowSize(640,480);
glutInitWindowPosition(200,200);
glutCreateWindow("Flood Fill Algorithm");
glutDisplayFunc(world);
glutMouseFunc(mouse);
init();
glutMainLoop();
return 0;
}
```