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#include <GL/gl.h>
#include <GL/glut.h>
#include <stdlib.h>
#include <stdio.h>

void display(void)
{
    glClear(GL_COLOR_BUFFER_BIT);
    glColor3f(1.0, 0.0, 1.0);

    int x0 = 0, y0 = 0;
    int x1 = 200, y1 = 200;

    int dx = x1 - x0;
    int dy = y1 - y0;

    int steps = abs(dx) > abs(dy) ? abs(dx) : abs(dy);

    float x_inc = dx / (float) steps;
    float y_inc = dy / (float) steps;

    float x = x0;
    float y = y0;

    glBegin(GL_POINTS);
    for (int i = 0; i <= steps; i++) {
        glVertex2f(x, y);
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        x += x_inc;

        y += y_inc;
    }

    glEnd();

    glBegin(GL_QUADS);
    glColor3f(0,0,1);
    glVertex2d(20,120);
    glVertex2d(100,120);
    glVertex2d(100,200);
    glVertex2d(20,200);

    glEnd();


    glBegin(GL_TRIANGLES);
    glColor3f(0,0,1);
    glVertex2d(110,20);
    glVertex2d(190,20);
    glVertex2d(150,60);

    glEnd();


    glutSwapBuffers();
}

void init(void)
{
    glClearColor(1.0, 1.0, 1.0, 1.0);
    glMatrixMode(GL_PROJECTION);

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glLoadIdentity();

glOrtho(0.0, 200.0, 0.0, 200.0, -200.0, 200.0);
}

int main(int argc, char** argv)
{
    glutInit(&argc, argv);
    glutInitDisplayMode(GLUT_DOUBLE | GLUT_RGB);
    glutInitWindowSize(300, 300);
    glutInitWindowPosition(100, 100);
    glutCreateWindow("AAKA-231");
    init();
    glutDisplayFunc(display);
    glutMainLoop();
    return 0;
}

```

