

Código 12: Iluminación

```
#include <GL/glut.h>

GLfloat puntos[4][3] = {{ -3., -3., 0.}, { -1.5, -3.0, 0.0},
                       { 3.0, 3.0, 0.0}, { 1.5, 3.0, 0.0}};

void display(void)
{
    int i;
    glClearColor(1.0, 1.0, 1.0, 0.0);

    glClear(GL_COLOR_BUFFER_BIT);
    glPointSize(6.0);
    glColor3f(1.0, 0.0, 0.0);
    glBegin(GL_POINTS);
        for (i = 0; i < 4; i++) glVertex3fv(&puntos[i][0]);
    glEnd();
    glColor3f(0.0, 0.0, 0.0);
    glBegin(GL_POLYGON);
        for (i = 0; i < 4; i++) glVertex3fv(&puntos[i][0]);
    glEnd();
    glFlush();
}

void reshape(int w, int h)
{
    glViewport(0, 0, (GLsizei) w, (GLsizei) h);
    glMatrixMode(GL_PROJECTION);
    glLoadIdentity();
    glOrtho(-5.0, 5.0, -5.0, 5.0, -5.0, 5.0);
    glMatrixMode(GL_MODELVIEW);
    glLoadIdentity();
    glEnable(GL_LIGHT0);
}

void keyboard(unsigned char key, int x, int y)
{
    switch (key) {
        case 27:
            exit(0);
        case 'p': glEnable(GL_LIGHTING);
                break;
        case 'a': glDisable(GL_LIGHTING);
                break;
    }
    glutPostRedisplay();
}

int main(int argc, char** argv)
{
    glutInit(&argc, argv);
    glutInitDisplayMode (GLUT_SINGLE | GLUT_RGB);
    glutInitWindowSize (500, 500);
    glutInitWindowPosition (100, 100);
    glutCreateWindow ("Luz");

    glutDisplayFunc (display);
    glutReshapeFunc (reshape);
    glutKeyboardFunc (keyboard);
    glutMainLoop();
    return 0;
}
```

