```
/**
   Example program 1.
   Shows how to set up a GLUT window and GL using orthographic projection.

   @author Lukas Ahrenberg (lukas@madscilab.com).
 */

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

// Title.
const char* TITLE = "Program 1";

/**
   GLUT init function. Initializes GLUT, sets up display mode and opens
   a window. Needs the args for the glutInit.
   @param argc Argument count.
   @param argv Argument array.
 */
void initGLUT( int &argc, char **argv)
{
  glutInit( &argc,argv );
  glutInitDisplayMode( GLUT_SINGLE | GLUT_RGB );
  glutInitWindowSize( 700, 700 );
  glutInitWindowPosition( 100, 100 );
  glutCreateWindow( TITLE );
}

/**
   GL init function. Sets background colour and projection.
 */
void initGL()
{
  glClearColor( 0.0, 0.0, 0.0, 0.0 );
  glMatrixMode( GL_PROJECTION );
  glLoadIdentity();
  glOrtho(0.0, 1.0, 0.0, 1.0, -1.0, 1.0 );
  glMatrixMode (GL_MODELVIEW );
}

/**
   Draw function. Defines three vertices and draws a polygon.
 */
void draw()
{
  float point2[2] = {0.5, 0.75};
  glClear( GL_COLOR_BUFFER_BIT );
  glColor3f( 1.0, 1.0, 1.0 );

  glBegin( GL_LINE_STRIP );
  glVertex2f( 0.25, 0.25 );
  glVertex2fv( point2 );
  glVertex2f( 0.75, 0.5 );
  glVertex2f( 0.5, 0.5 );
  glEnd();

  glFlush();
}


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

  initGLUT(argc, argv);
  initGL();
```

```
  // Set the display callback function to draw().
  glutDisplayFunc( draw );

  //Start the GLUT main Loop.
  glutMainLoop();

  return 0;
}
```