AL GHURAIR UNIVERSITY
College of Computing

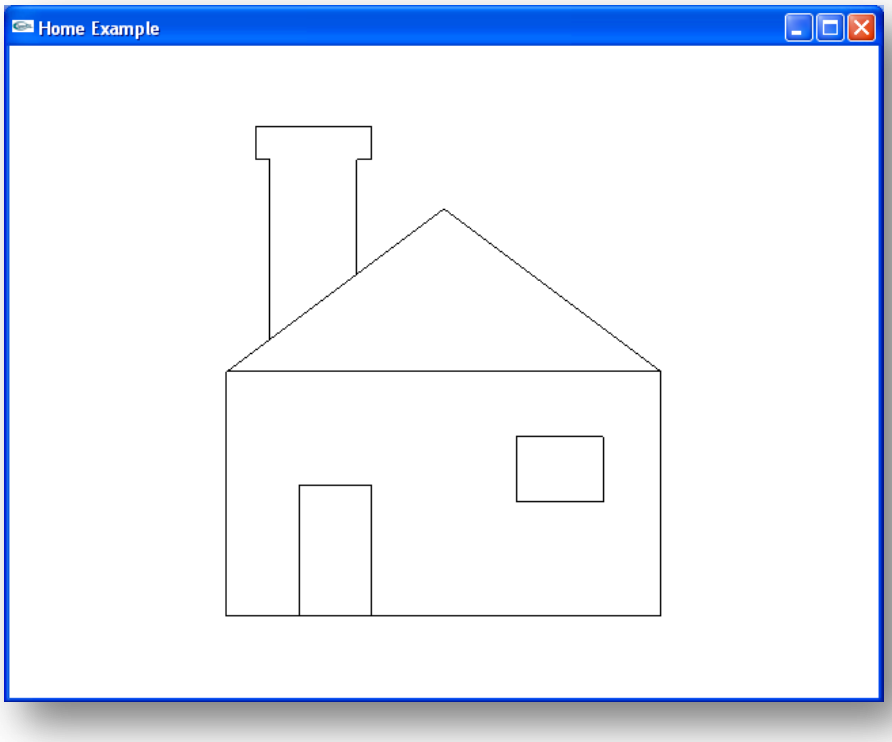
CSC 305 **Computer Graphics**

Lab Exercise - Parameterizing Figures

This example shows a simple house consisting of a few polylines. More flexibility is achieved if we parameterize the figure, and pass the parameter value to the routine.

The parameters specify the location of the roof peak, the width of the house, and its height.

Sample Output



Source Code

```
#include "stdafx.h"
#include <windows.h>   // use as needed for your system
#include <stdlib.h>
#include <gl/Gl.h>
#include <gl/glut.h>

 void myInit(void)
 {
    glClearColor(1.0,1.0,1.0,0.0);       // set white background color
    glColor3f(0.0f, 0.0f, 0.0f);         // set the drawing color
      glPointSize(4.0);                    // a 'dot' is 4 by 4 pixels
      glMatrixMode(GL_PROJECTION);
      glLoadIdentity();
      gluOrtho2D(-30.0, 30.0, -20.0, 20.0);
}
void drawHome()

{
// Home OutLines
      glBegin(GL_LINE_STRIP);
            glVertex2i(15,0);
            glVertex2i(-15,0);
            glVertex2i(-15,-15);
            glVertex2i(15,-15);
            glVertex2i(15,0);

            glVertex2i(0,10);
            glVertex2i(-15,0);
      glEnd();
// Door
      glBegin(GL_LINE_STRIP);
            glVertex2i(-5,-15);
            glVertex2i(-5,-7);
            glVertex2i(-10,-7);
            glVertex2i(-10,-15);
      glEnd();
// Window
      glBegin(GL_LINE_STRIP);
            glVertex2i(5,-4);
            glVertex2i(5,-8);
            glVertex2i(11,-8);
            glVertex2i(11,-4);
            glVertex2i(5,-4);
      glEnd();
// Smooking
      glBegin(GL_LINE_STRIP);
            glVertex2f(-6,6);
            glVertex2f(-6,13);
            glVertex2f(-5,13);
            glVertex2f(-5,15);
            glVertex2f(-13,15);
            glVertex2f(-13,13);
            glVertex2f(-12,13);
            glVertex2f(-12,2);
      glEnd();

}
```

```
void draw()
{
	glClear(GL_COLOR_BUFFER_BIT);	// clear the screen
		drawHome();
	glFlush();

}

void main(int argc, char** argv)
{
	glutInit(&argc, argv);				// initialize the toolkit
	glutInitDisplayMode(GLUT_SINGLE | GLUT_RGB); // set display mode
	glutInitWindowSize(640,480);			// set window size
	glutInitWindowPosition(0, 0);			// set window position on screen
	glutCreateWindow("Home Example");	// open the screen window
	glutDisplayFunc(draw);				// register redraw function
	myInit();
	glutMainLoop();					// go into a perpetual loop
}
```