

## Homework 1: Build your interactive GUI

Here is what you need to do:

0. Download the codes package from:  
[www.ece.lsu.edu/xinli/teaching/EE4702/homework1.zip](http://www.ece.lsu.edu/xinli/teaching/EE4702/homework1.zip)  
(Homework description, codes, a triangle mesh torus.m are included)
1. Compile the codes and run it, you shall see a triangle rendered.
2. With your “middle” mouse button, you can “Translate” the object. Implement the “Rotation” using “left” mouse button, and “zoom in/out” using “right” button. Now you shall be able to see the triangle from different directions.
3. Implement the ReadMesh(), so that you can read a .m mesh. Read the torus.m and render it.
4. You might find the rendering (lighting) is weird. Because the normal is not set appropriately. (openGL uses the default normal of (0.0, 0.0, 1.0) everywhere), compute the normal on each face by implementing the computeNormal() method, and set it up correctly.
5. Is rotation of the Torus weird? You want to put the model on the center of the screen and you want to rotate about its mass center. Implement the computeMassCenter() method. And set your transformation correctly.

***DUE: 11:59pm Sep. 12***