

## Homework 2: Halfedge Data Structure for Triangle Mesh

Here is what you need to do:

0. Download the codes package from:  
[www.ece.lsu.edu/xinli/teaching/EE4702/homework2.zip](http://www.ece.lsu.edu/xinli/teaching/EE4702/homework2.zip)  
(Homework description, codes, and several triangle meshes)
1. Compile the halfedge meshlib, read it and understand it.
2. Merge it and your first homework. So that you can read in a mesh using the halfedge data structure, and render the mesh on the screen correctly.
3. Using the half-edge meshlib, complete the following:
  - 2.1 Compute how many connected components (#C) a given mesh has;
  - 2.2 Compute how many boundary loops (#B) a given mesh has;
  - 2.3 Compute the Euler number =  $F - E + V$ , report it (#X)
  - 2.4 Render all the boundary loops on the mesh (e.g. highlighted in a different color)

Please test on all provided meshes.

- Send the program so that the boundaries are illustrated clearly.
- Send the results #C, #B, #X for all meshes to me.

***DUE: 11:59pm Sep. 26***