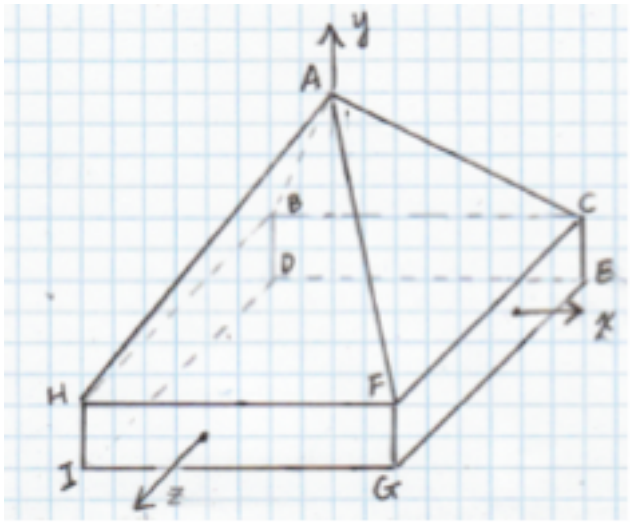
CSCI 4250/5250 **Name _____**

Homework 7 (Due beginning of class Monday, Nov 17th)



A=(0, 6, 0), B=(-4, 1, -1), C=(6, 1, -1), D=(-4, -1, -1), E=(6, -1, -1), F=(6, 1, 4), G=(6, -1, 4), H=(-4, 1, 4), I=(-4, -1, 4)

1. Given the 3D mesh object in the picture above, show:
   a. The vertex list
   b. The normal list. Compute the normals of the faces using Newell's method.
   c. The face list. Each face should include the vertex (index) list, as well as the normal (index) list.

   Show the step by step computation of the normal for face AFC. You may use computer program to compute the rest of the normal vectors.

2. Suppose the vertex list and the normal list has been computed and stored on the GPU in the corresponding arrays on the GPU for the mesh object in question 1, write WebGL code to setup proper lighting and object material properties to display a yellow and shiny mesh object. Set up lighting to include a white positional light located at (0, 0, 10).

3. Download the extruded mesh program from the course web site. Modify the program to produce extruded capital letter of your first and last initial. Turn in the modified extruded.js and a screen shot of your program output.