# Triangle Trouble
## Dr, Bradford A. Towle Jr.
## Graphics

1. ## Objectives
   A. To ensure students can initialize WebGL
   B. To ensure students understand the difference between
      a. gl.TRIANGLE
      b. gl.TRIANGLE_STRIP
      c. gl.TRIANGLE_FAN
2. ## Equipment
   A. A computer that can run notepad ++ and a modern web browser
3. ## Lab Preparation
   A. Ensure you have the example code working and the WebGL initialized correctly.
4. ## Lab Instruction
   A. You will make one WebGL object to render
   B. It will have the following vertices (X,Y), Z will always be 0 and you may choose what colors you want to use for each vertex.
      a. (0,.5)
      b. (1,.5)
      c. (.5,1)
      d. (.5,0)
      e. (0,-1)
      f. (-.5,0)
   C. You will also add a variable inside the object that will change how these vertices are rendered
      a. If the variable =
         i. 0 – then use gl.TRIANGLE
         ii. 1 – then use gl.TRIANGLE_STRIP
         iii. 2 – then use gl.TRIANGLE_FAN
   D. In the HTML create a simple main class that will have a function which will change this objects variable.
      a. (In the constructor of main instantiate this object)
   E. Create either three buttons or a drop down with the three different rendering styles.
   F. When the button (or dropdown) is pressed/changed, send the input to a global function, which will then send data to the main class's function.
   G. The function inside the main will set the objects variable appropriately
   H. Clear the screen with (gl.clear(gl.COLOR_BUFFER_BIT|gl.DEPTH_BUFFER_BIT);)
   I. Re-Render the object (with the new mode).

## 5. Lab Rubric

|  | Perfect | Close, but not quite right, (no syntax errors) | Not acceptable |
|---|---|---|---|
| Button (or dropdown) works | 10 | 5 | 0 |
| gl.TRIANGLES renders correctly | 5 | 2 | 0 |
| gl.TRIANGLE_STRIP renders correctly | 5 | 2 | 0 |
| gl.TRIANGLE_FAN renders correctly | 5 | 2 | 0 |
| Total | /25 |  |  |

## 6. Lab Report Requirements

No lab report due but there is a peer review required for this assignment.