Due: 9/12 (11:59PM)

Requirements:

- Write a WebGL program that creates and visualizes a random triangle. Name your source code `hw1.html` and `hw1.js`. The program should meet the following requirements:
  - Set the title of the program to "hw1" (must appear on title bar).
  - Set the background color to black.
  - Create triangle vertices at 3 random locations. Create random coordinates so that each vertex may possibly be positioned anywhere within canvas, but never outside.
  - Create and assign 3 random colors for the 3 vertices. These 3 colors must be linearly interpolated within the triangle.
  - Use *drawArrays* function to visualize the triangle on canvas.
  - Thus, every time you hit F5 (refresh) key, the canvas must display a new random triangle at a random position, with random size and random color gradient (see Fig. 1 $\sim$ 2). The triangle vertices must never go out of bounds.

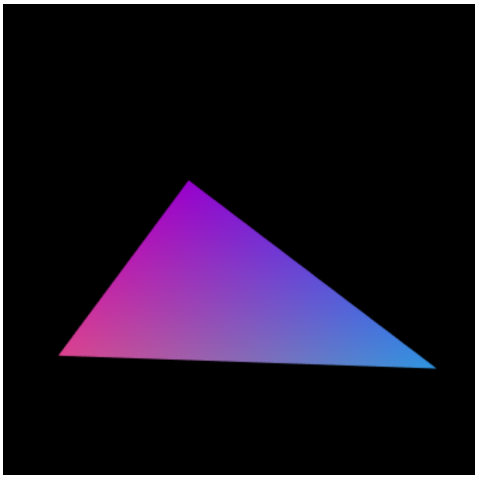

Figure 1: Random triangle 1

Figure 2: Random triangle 2

What to submit:

- Submit all your **source files (.html, .js)** that are needed for compilation, including **library files/folders**. *Missing library files/folders will lead to point deduction.*
- Make sure your **library folder/files** are in the right location relative to your main program (.html), such that when your main program (.html) is clicked as is, it should run without problem. *Failure to do so will lead to point deduction.*

How to submit:

- Use Canvas Assignment Submission system to submit your source files.
- Make sure to zip all your files/folders into `hw1.zip`, then submit your `hw1.zip` as a single file.

Policy

- Do all the assignments on *Chrome Development Tools* using HTML, JavaScript, and GLSL ES.
- At the start of each source file, provide comments specifying the author, date, and a brief description of the file.
- Source code must contain enough comments here and there to make it easy enough to follow. Insufficient comments could lead to point deduction.

- Incomplete program will get almost no credit (e.g., program does not run due to compile errors or program terminates prematurely due to run-time errors).
- *Thou shall not covet thy neighbor's code*. If identical (or nearly identical) submissions are found among students, every student involved will get automatic zero for the assignment. The same goes for copying existing code from online source.
- If a student makes multiple submissions, only the last submission will be considered valid.