CSCI 431 Project Two A Sierpinski Gasket Mountain

Objectives:

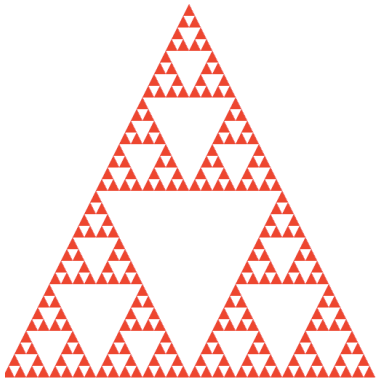
1. Apply WebGL API
2. Apply JS API
3. Understand and modify existing programs

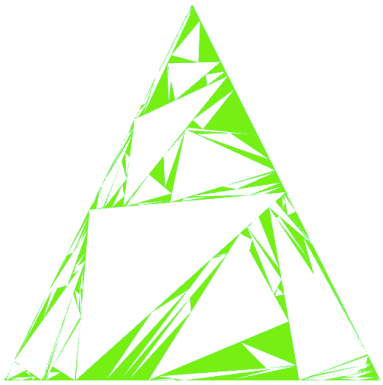
Problem Description:

Refer to Exercise 2.1. A slight variation on generating the Sierpinski gasket with triangular polygons yields the fractal mountains used in computer-generated animations. After you find the midpoint of each side of the triangle, perturb this location before sub-division. Generate these triangles without fill. Later, you can do this exercise in three dimensions and add shading. After a few subdivisions, you should have generated sufficient detail that your triangles look like a mountain.

Step by Step Instructions:

1. Create a folder named CSCI431ProjectTwo. Copy gasket2.html, gasket2.js, and three files located in Common folder (namely, webgl-utils.js, initShaders.js, and MV.js). Rename gasket2.html as YourInitialProj2.html, gasket2.js as YourInitialGasket2.js.
2. Modify the links in YourInitialProj2.html, so that the following four files will be linked appropriately: YourInitialGasket2.js, webgl-utils.js, initShaders.js, and MV.js.
3. Test run first to ensure that you will get the similar (but larger) graph as following red one:





This shows that you have modified all links successfully.

4. Now, follow the instruction in problem description: “After you find the midpoint of each side of the triangle, perturb this location before sub-division.” You may do this by simply move this midpoint to a random point on the same side of triangle.
5. Change color set as green.
6. Run your project, you shall get something looks like a mountain (the green graph above).

Due Date:

Will be announce on blackboard.