

Assignment 1: Introduction to OpenGL

Assignment Specification:

Download the attached program **Triangle.cpp** along with the shader files (**triangle.vs** and **triangle.fs**). Run and Compile the program. Next, make the following changes:

- 1) Change the background color. You can choose any color other than black.

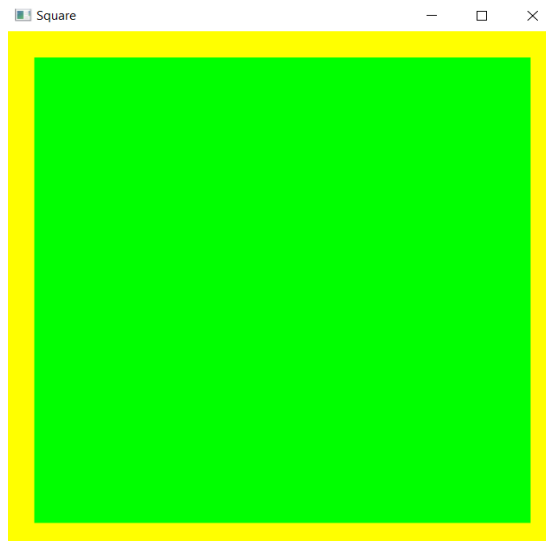
0.5 point

- 2) Change the color of the object. You can choose any color other than red.

0.5 point

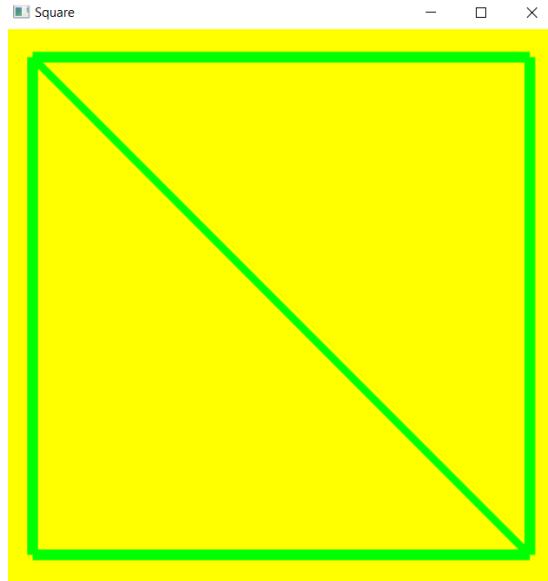
- 3) Add one more point to the existing triangle so that the resultant figure looks like a square. Change the title of the window from 'Triangle' to 'Square'. The output will look something similar to the following. You can follow OpenGL tutorial 1.

3.0 point



- 4) Add the keyboard button 'S'/'s' to switch between the polygon (surface) mode to wireframe (lines only) mode as demonstrated below. You would need to use **glutKeyboardFunc** callback function. Choose a line width of 10 pixels.

1.0 point



Bonus Part (Optional):

2 points

- 1) Add color as an **attribute**. Draw the colored square. Below is an output of the colored square with different color for different vertices. Feel free to choose different colors for different vertices.



Submission:

Thus, your submission should include the following files:

Square.cpp, square.vs, and square.fs

- Place your solution in a zipped file named with your last name followed by the first initial of your first name followed by '1' (ex: **CSCD377YasminS1.zip**) and submit the solution via canvas.

Submission deadline is **Wednesday, April 15, 11:59 pm.**

This assignment carries a weightage of **5%** of the course.