HW3

Problem:

The goal of this assignment is to implement the the 3D viewing and Phong shading model. To view the object from the camera, you will complete the GetViewMatrix() function in Camera.h and the projection matrix in main.cpp. You will write the vertex and fragment shaders for the Phong model to shade a simple cube, whose geometry is constructed in main.cpp; stubs for the shaders are provided in phong.vs and phong.frag, respectively. If you implement everything correctly, you should be able to reproduce an image like the following

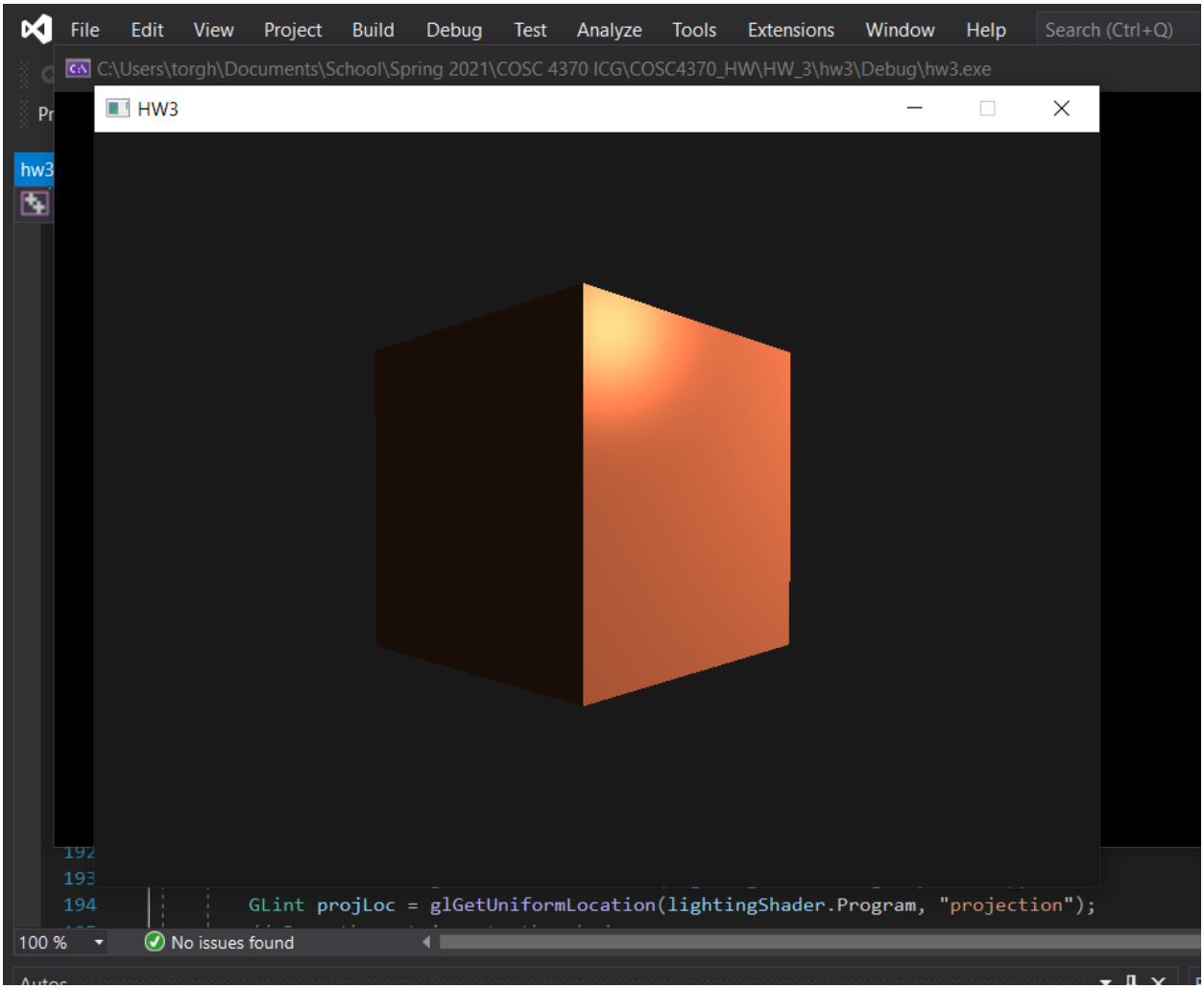
Algorithm and Method:

For the camera, I utilized an online resource https://learnopengl.com/Getting-started/Camera. It is necessary to apply the right code to the program and get the positioning correct. As for the phong, I used this link https://learnopengl.com/Advanced-Lighting/Advanced-Lighting. This is a method for lighting. You have to take in account the angle of the light source to the viewer's perspective. Since we are using phong, we utilize the reflection angle while the Blinn-phong method utilizes the halfway angle

Implementation:

In terms of implementing, it is important to note that the work took place mainly in the camera and phong files. Most of the code used was done from the site directly which I referenced above and in the code itself. The camera portion was relatively easy but with the phong, it required an extra step to utilize in the program. But fortunately, the online code was extremely helpful in providing context

Result:


File Edit View Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
C:\Users\torgh\Documents\School\Spring 2021\COSC 4370 ICG\COSC4370_HW\HW_3\hw3\Debug\hw3.exe
HW3
GLint projLoc = glGetUniformLocation(lightingShader.Program, "projection");
100 %
No issues found