Assignment 5 – Phong Lighting Report

Name: Jung Kyu Mok

Course: GAM531NSA

Date: October 8, 2025

Summary

In this assignment5, I implemented the Phong lighting model in OpenTK using GLSL shaders.

The cube is rendered with ambient, diffuse, and specular components, and the lighting reacts based on the light position and camera angle.

I added distance attenuation, a rim light for extra depth, and a small animated sun to visualize the light source.

The user can rotate the cube, move the light, and adjust the camera using keyboard and mouse input.

Result

The final result shows a realistic 3D cube with smooth lighting and reflections.

The highlight changes correctly as the light moves, and the scene feels more dynamic and natural.

Reflection

This assignment helped me understand how each part of the Phong model contributes to realistic 3D lighting.

It was also good practice for writing shaders and handling camera and lighting in OpenGL.