Snowflake 2D Animation

Due: March 22, 2019 (Noon)

1 Overview

This assignment is designed for you to understand 3D computer graphics programming. In this homework, you will develop a 2D fractal animation with our rendering engine. Starting with our skeleton code, you should implement koch snowflake (`https://en.wikipedia.org/wiki/Koch_snowflake`) mesh generator (inherited from Engine::Mesh), Snowflake objects (inherited from Engine::RenderObject), and animation class. By using timing function (*glfwGetTime()*) in GLFW, your snowflakes should move smoothly (and not too fast). For constant animation, you need to apply *SetPosition* and *SetOrientation* for snowflakes. In the main.cpp, there are mesh generator for adding background objects to virtual scene. The background should be composed of OpenGL primitives (Do not use *glClearColor(R, G, B)* for background). An example of animation is 'snowing' scene in the background of the night sky with the moon and the stars. Please try to show your creativity and imagination in composing the scene. (interesting object or animation effect)

Please keep the due date! You also need to write a comment in your code and write up 2-3 pages (10pt, 1.5 space) reports explaining what and how you have done to meet the specifications given below. **Do not just copy your code to your report. Please explain 'how' your implementation satisfies the specification**.

2 Specification & Grading

Specification	Max pts
1. Snow animation	40
1.1 Koch snowflake mesh generator (10)	
1.2 Implementing Animation and Snowflake class for smooth and natural motion (30)	
2. Background	30
2.1 At least two different kinds of objects(primitives) with different colors (20)	
2.2 Gradient background (e.g using large rectangle) (10)	
4. Document	10
5. Creativity	20
Total	100

Table 1: Specification and Grading