

2025-2 Computer Graphics
Programming Assignment 1

1 Create a scene with 3D models. [4 pt]

- 1.1 Load **3** textured 3D models from OBJ/FBX files. [2 pt]
(*Use a different OBJ/FBX and a texture for each model.)
(*Do **not** use simple primitives such as cube, cylinder, pyramid, sphere, etc.)
(*All models should be displayed **without any hole**.)
- 1.2 Self-rotate(자전) each model continuously against the y-axis at different positions. [1 pt]
- 1.3 Create a textured ground plane. [1 pt]

2 Display Phong illumination using keyboard inputs. [3 pt]

- 2.1 **5** key: turn on/off the ambient lighting effect. [1 pt]
- 2.2 **6** key: turn on/off the diffuse lighting effect. [1 pt]
- 2.3 **7** key: turn on/off the specular lighting effect. [1 pt]
(*Turning on/off of each lighting effect should **NOT** affect other lighting effect.)
(*The lighting effects should affect **all** models in the scene.)

3 Add multiple point lights using keyboard inputs. [3 pt]

- 3.1 Add **3** point lights with different colors to the scene. [2 pt]
- 3.2 **8, 9** key: increase/decrease the intensity of all point lights. [1 pt]
(*The lighting effects should affect **all** models in the scene.)

• **Implementation requirements**

- ✓ Program should be executed in a **x86 (32-bit) Release** mode.
- ✓ The framework classes can be modified, but **cannot** be deleted.
- ✓ All implemented functions should be executed from the **same** program.

• **Submission instruction**

- ✓ 프로그램 build에 필요 없는 폴더(Debug, Release, ipch) 및 파일(*.db, *.exe)은 모두 삭제.
(*폴더 보기 → 표시 → 숨김 항목 → .vs 폴더 → ipch 폴더 및 *.db 파일 삭제)
- ✓ 필요한 설명이 있으면 "readme.txt"에 기술.
- ✓ 프로젝트 폴더 전체를 ZIP 압축(제한: 100MB) 후 Classroom에 제출 (*E-mail로 받지 **않음**).
- ✓ Visual Studio 2022 (DirectX 11)에서 source code가 build 안되거나, 프로그램 실행이 안되면 **0점** 처리.
- ✓ Source code의 copy시 원본 제공자와 복사자 모두 **0점** 처리.
- ✓ 제출 시간 지나면 **0점** 처리.