Development Environment

- Device — MacBook Pro
- OS — MacOS highSierra 10.13.3
- IDE — XCode (9.2 (9C40b))
- OpenGL — 4.1

Controls

Button	Function
`Left mouse click`	Hold down and move mouse to move the spherical camera
`Mouse scroll wheel`	Zoom in and out
`W`	Speed up animation
`S`	Slow down animation
`P`	Pause animation
`O`	Start animation

Part I: A Sphere

- Spheres render correctly

Part I (Limitations)

- n/a

Part II: A Spherical Camera

- Camera always looks to the centre of the scene

Part II (Limitations)

- n/a

Part III: A Scene Graph

- All celestial bodies orbit and rotate appropriately
- The earth is correctly titled on its axis of rotation
- The earth’s moon orbits the earth; with respect with the earth’s axis of rotation
- Backdrop of stars (and the milky way) dispaly correctly, even when moving the camera

Part 3 (Limitations)

- n/a

Part IV: Texturing & Shading

- Textures are correctly applied to the spheres

Part IV (Limitations)

- Shading does not work correctly
- The specular lighting follows the camera, as opposed to following the sun

Part V: Animation

- Animation of all the celestial bodies work correctly
- Animation can be sped up or slowed down using the controls mentioned above
- Animation can be paused and started

Part V (Limitations)

- Animations are not “to scale”

References

Link	Use
https://www.solarsystemscope.com/textures/	All the textures
https://github.com/SonarSystems/Modern-OpenGL-Tutorials/blob/master/[LIGHTING]/[12] Point Light/res/shaders/lighting.frag	Failed attempt at shading, with guidence from this link