Development Environment

- Device — MacBook Pro

- OS — MacOS highSierra 10.13.3

- IDE — XCode (9.2 (9C40b))

- OpenGL — 4.1

Scenes

- When executing code, an OpenGL window will appear displaying the scene, upon closing of this window, the rendered scene is saved as a PNG file to a folder called `imageOutputs` in the root of the project
- The screenshots that were taken by me are saved in the folder `renderedImages`
- Program takes command line arguments for the file names (in Eclipse IDE)
    - Run → Run… → C/C++ Application → Arguments → **one of the file names from below**

- Scene1 is in file called `scene1.txt`

- Scene2 is in a file called `scene2.txt`

- Custom scene is in a file called `customScene.txt`

Part 1 (Ray Generation)

- Rays are being generated correctly

Part 1 (Limitations)

- n/a

Part 2 (Ray Intersection)

- Rays intersect correctly with the shapes

Part 2 (Limitations)

- n/a

Part 3 (Shading)

- Objects/shapes are being shaded correctly

Part 3 (Limitations)

- n/a

Part 4 (Shadows and Reflections)

- n/a

Part 4 (Limitations)

- Does not work

Part 4 (Artistry & Final Renderings)

- Custome scene renders correctly

Part 4 (Limitations)

- Because I could not figure out shadow/reflection, this part also does not have shadow or reflection

References

- Used: www.scratchapixel.com to better understand the concepts of ray tracing and some ray tracing code was influenced from the source code provided on that site

- Used:

  http://www.ccs.neu.edu/home/fell/CSU540/programs/RayTracingFor

  for shading of shapes