Karim Sammouri
Dr. Michael Zmuda
CSE 386 - B
April 21, 2023

Ray Tracing Project Report

Functionalities that have been implemented:

(76) Required Features
- All required features have been fully implemented.
1) (45) Lighting, shading, and shadows
- (28) Positional light with correct equations
- (3) Attenuation that can be turned on/off
- (7) Spotlight
- (7) Shadows
2) (16) Objects
- (7) Two finite-length cylinders with open ends. One aligned with Y and one with Z axis
- (7) One cylinder with closed ends and finite length aligned with Y axis
- (1) One sphere
- (1) One plane
3) (7) Textures
- (7) Y oriented cylinder textured at 50-50 proportion
4) (7) Transparency
- (7) One transparent plane placed on timer
5) (1) Resizing
- (1) Display is not skewed when window is resized
(16) Secondary Features
- Two secondary features have been fully implemented.
1) (8) Anti-aliasing
2) (8) Cone

Functionalities that have not been implemented:
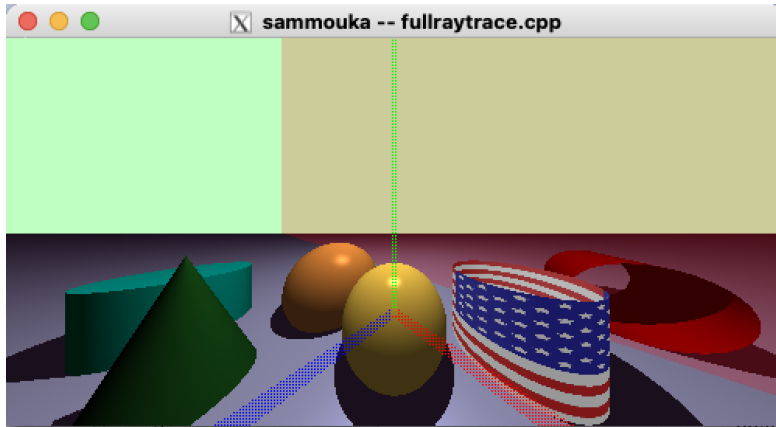
1) Light tied to the world or camera
2) Reflections
3) Viewports

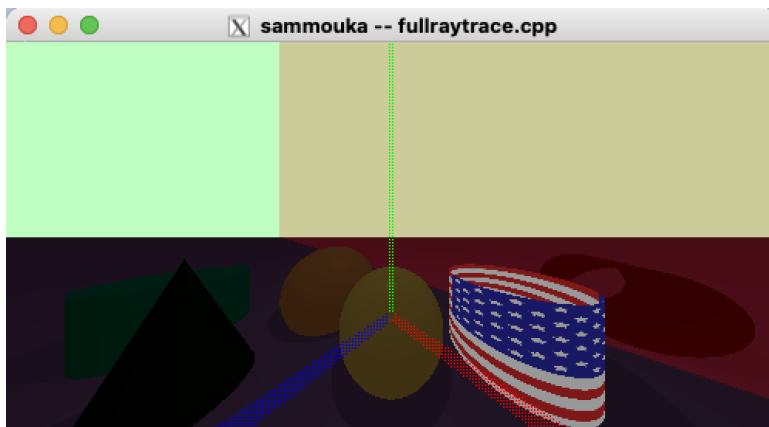*** SCREENSHOTS ON NEXT PAGE ***

Screenshots:

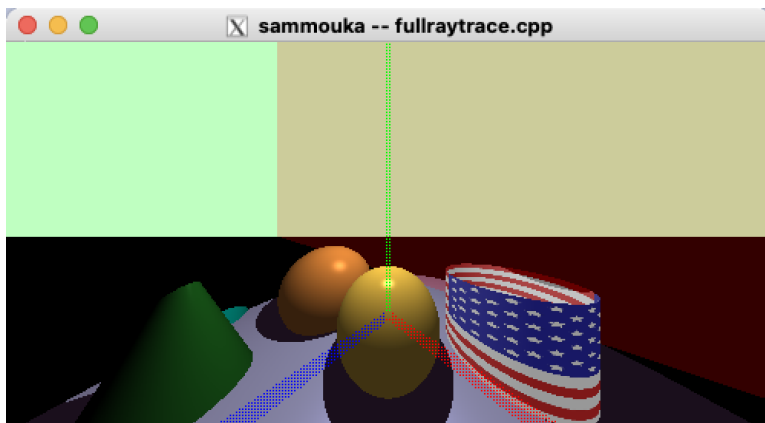## 1) Positional light turned on; spotlight turned off
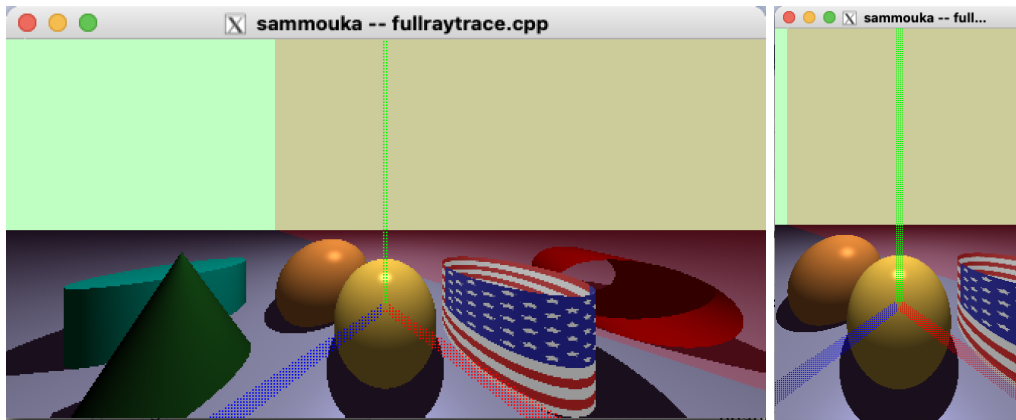- Notice lighting, shading, shadows, objects, textured cylinder, and transparent plane.

2) Positional light attenuation turned on

3) Spotlight turned on; positional light turned off

4) Window resized *(left photo to right)*

5) Anti-aliasing turned on *(top photo to bottom)*