CS 450 Project #3
Lighting

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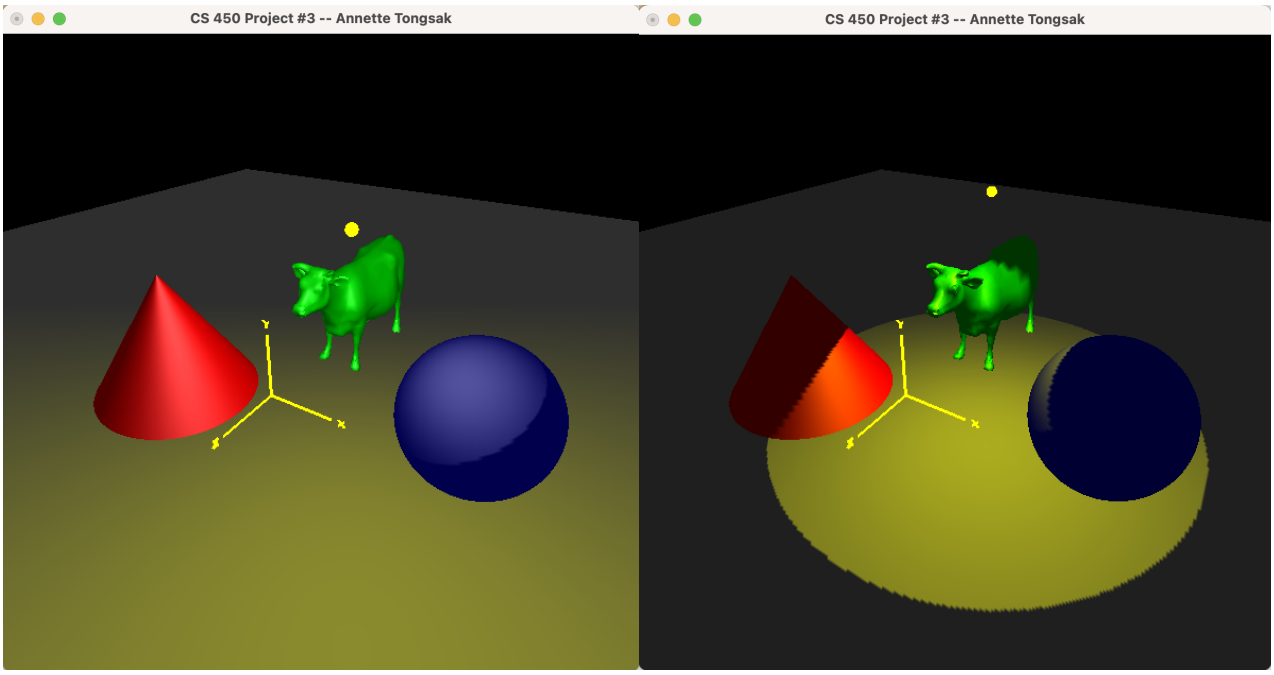

Point light on Spotlight on

Video link

To create this display, I worked in this order:

1) Drew the shiny cone, dull sphere, shiny cow OBJ, and grid
    a) Using SetMaterial(), I set the rgb colors and shininess of each object in the scene before positioning them on the grid.
2) Set the camera view to see all the objects
3) Implemented a point light and spot light
    a) I enabled GL_LIGHTING and GL_LIGHT0, then used an if-else statement around an int variable NowLight to turn on SetPointLight() or SetSpotLight().
4) Drew the solid color light sphere
    a) I positioned this sphere in the same spot as the light source. GL_LIGHTING was disabled to allow the light sphere to have a solid color.
5) Animated the light sphere and light
    a) I applied transformations to both the light sphere and light so they are both moving in a circle above the grid objects.
6) Implemented functionality for keyboard inputs to change light type and color
    a) In the Keyboard() function, I added switch cases for the required keys to change int variables NowLight and ColorLight, which affect light type and color,

respectively. Then, I utilized an if-else statement in Display() for color variations of SetPointLight() and SetSpotLight().

7) Implemented functionality for keyboard inputs to change light sphere color
    a) I created an if-else statement around the int ColorLight variable to change the color of the light sphere with glColor3f().