

Project B - Ray-Tracings of Designed Scenes

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COMP-SCI 351 Computer Graphics

1. User Guide

- You can drag your mouse to tilt the camera into the expected angle.
- Key P and L are used for zooming in and out.
- WSAD keys to move the camera position.
- Press key T to trace the scene on the left.
- Super-sampling and jitter button are used for user to see a better designed of the ground grids in distance
- Users can also turn on and off the camera light and change the two environment lights' position or turn on or off each of them.
- Users can set the number of reflection bounces.
- There are five scenes designed and you can toggle between them with the change scene button.

2. Scenes

- Scene 0 under default lightings and two reflection bounces: Contains two disks and one sphere.

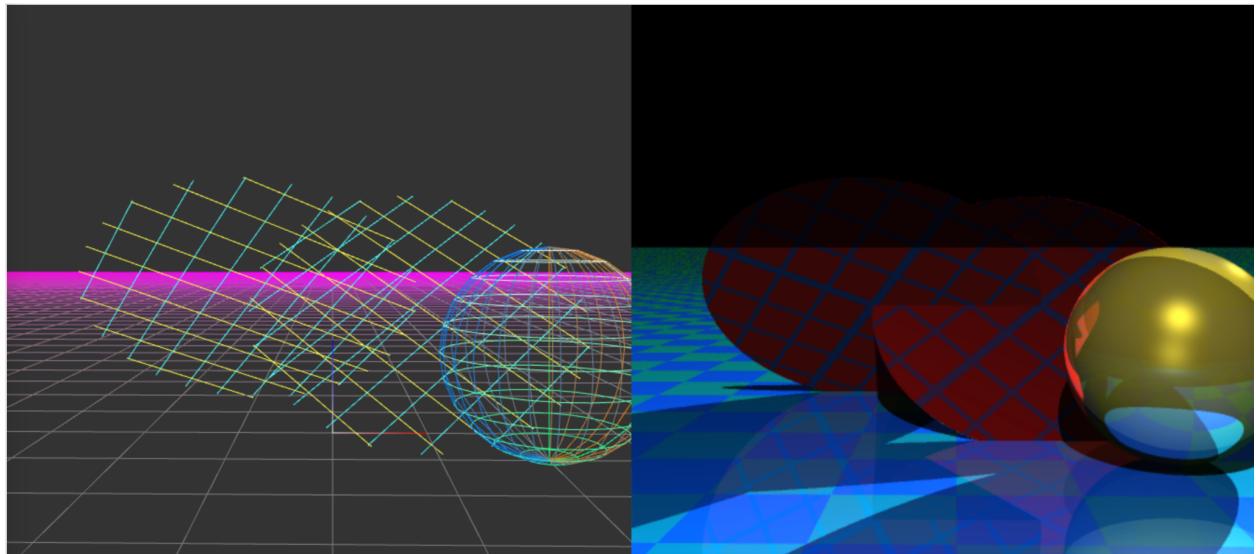


Figure1

- Scene 1 under default lighting and two reflection bounces: Contains three sphere.

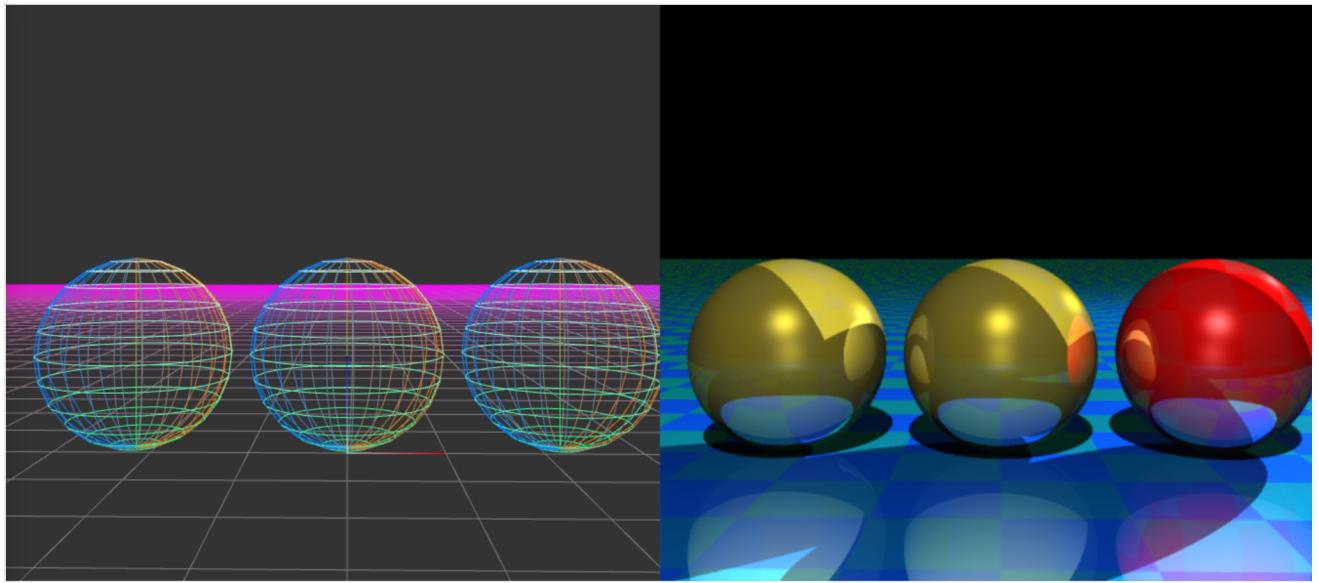


Figure2

- Scene 2 under default lighting and two reflection bounces: Contains three cubes.

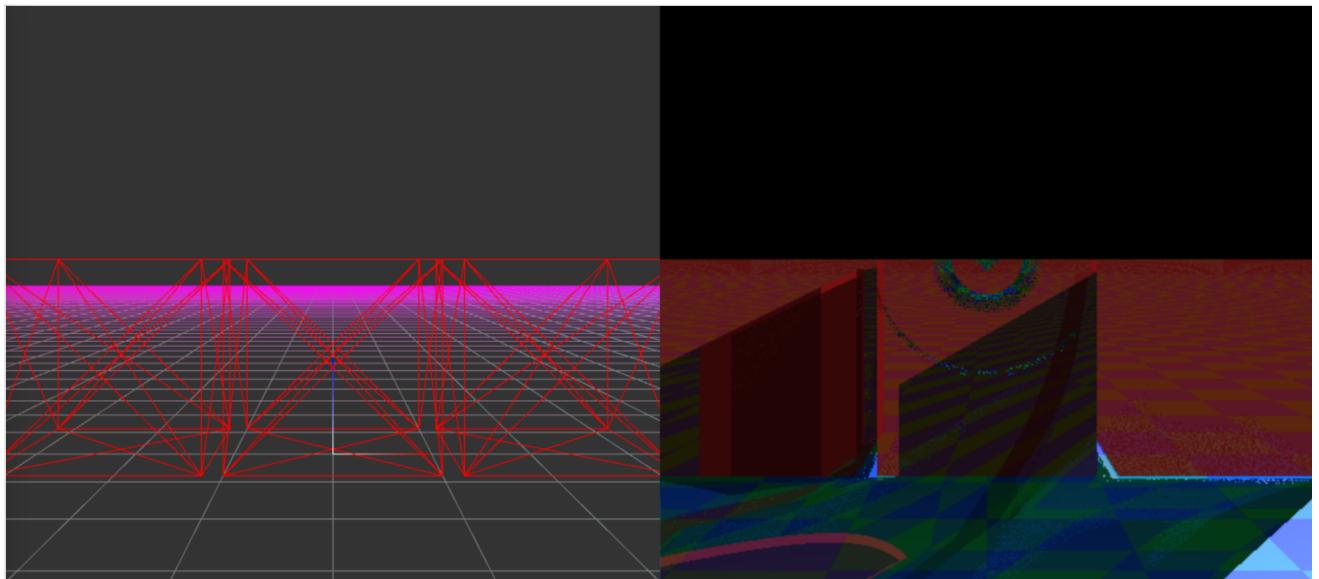


Figure3

- Scene 3 under default lighting and two reflection bounces: Contains two sets. One is a cylinder union with a sphere and a cube underneath. The other is a sphere and a cube.

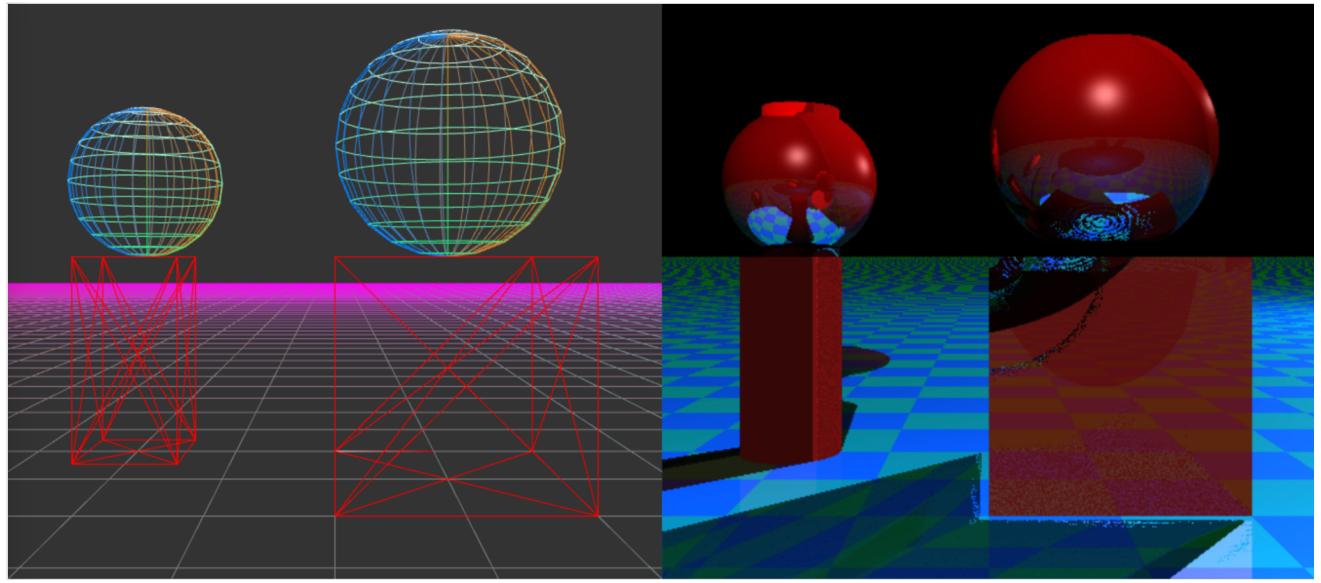


Figure4

- Scene 4 under default lighting and two reflection bounces: Contains a disk and a sphere underneath.

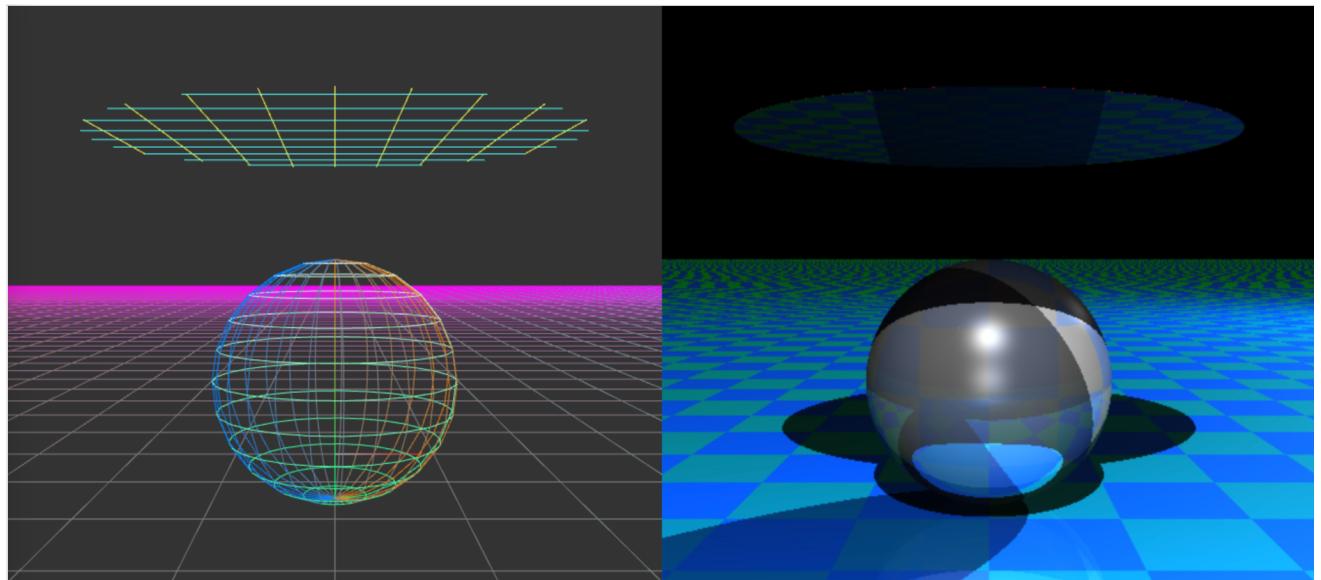


Figure5

3. Lightings

- Scene 2 under default lighting is as Figure2. If we turn off the camera light, it is shown as Figure6. If we turn off the light1, it is shown as Figure7. If we turn off the light2, it is shown as Figure8.

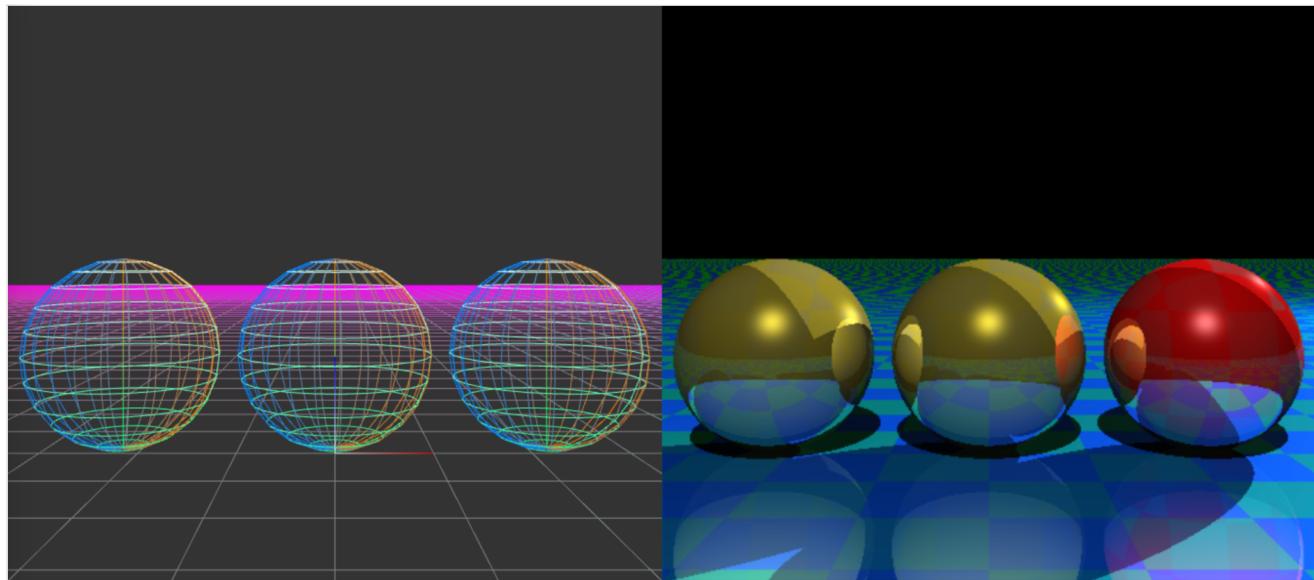


Figure 6

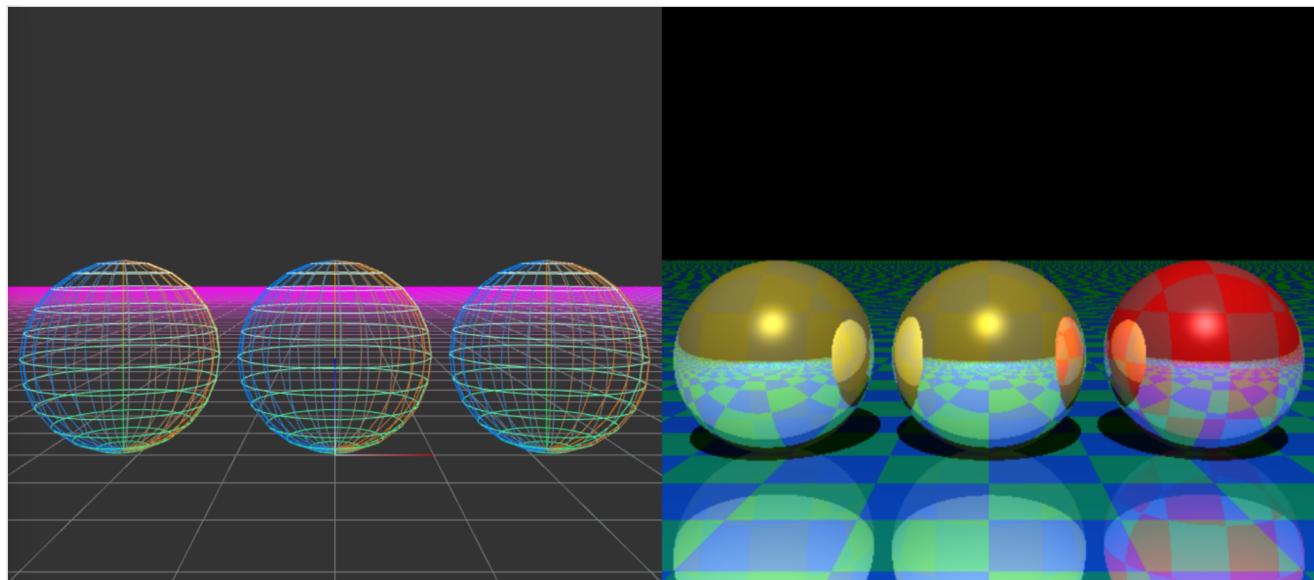


Figure7

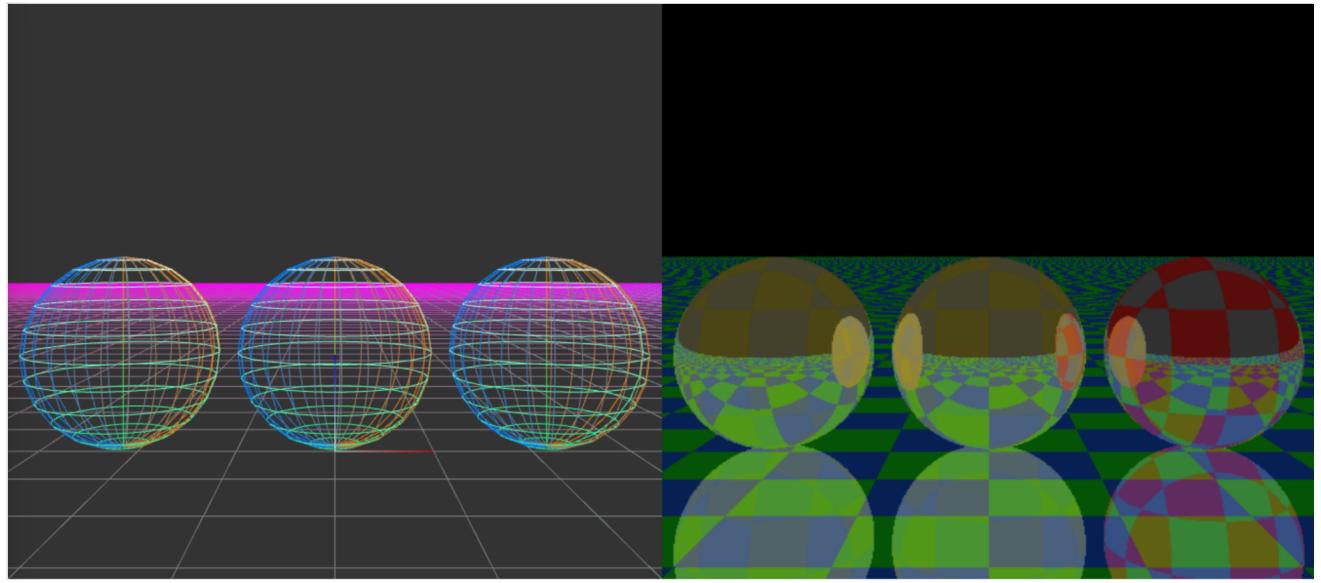


Figure 8

4. Reflection Bounces

- Scene 2 with twice bounces is shown as Figure 2. It is shown as Figure 9 if I increase the bounces into 6 and shown as Figure 10 if I decrease the bounces into 1.

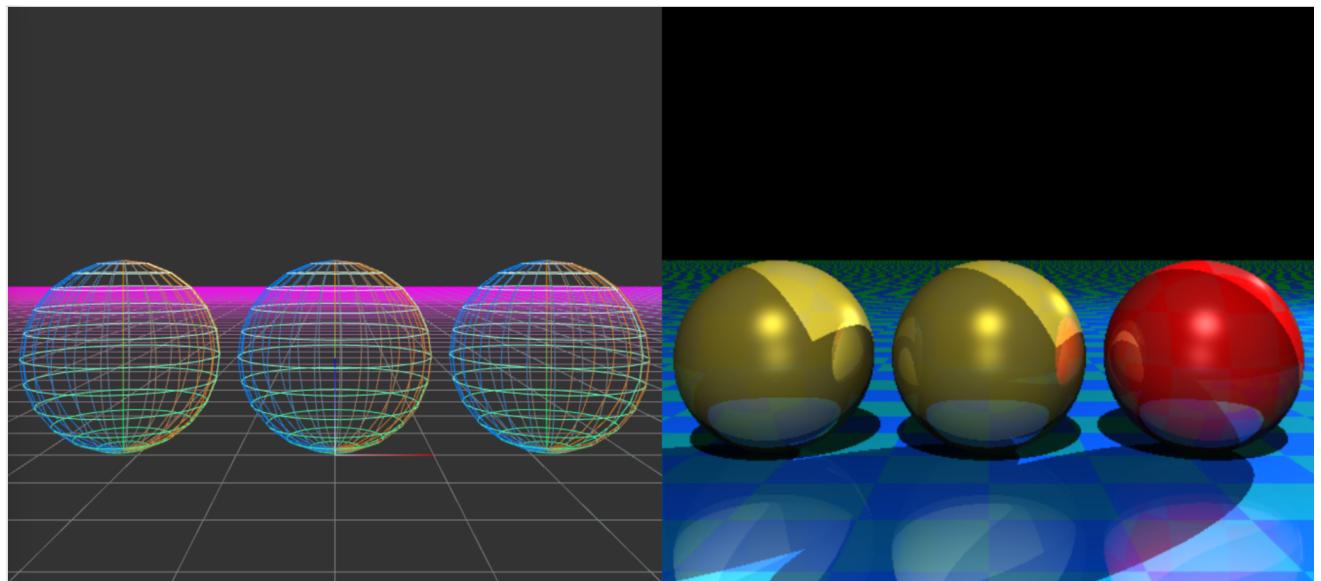


Figure 9

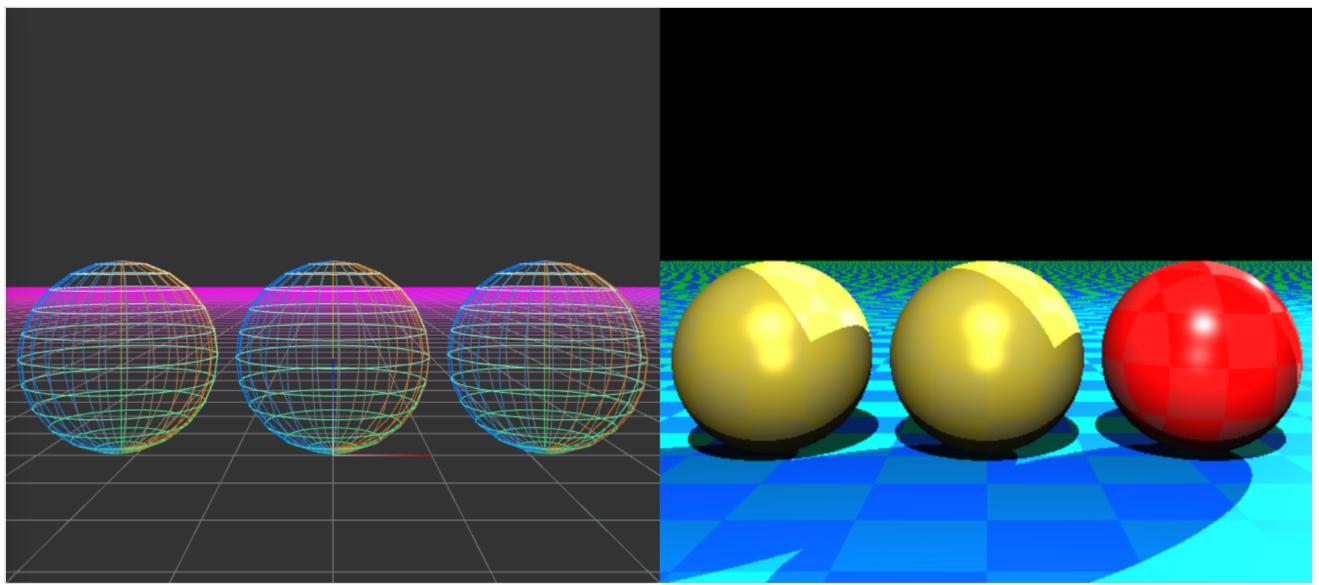


Figure 10