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CSC 4356 HW4

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The purpose of this assignment was to familiarize us with the ray tracing algorithm. We were instructed to complete the skeleton code by filling in code for the missing functions. These functions were:

Intersection \*intersect\_ray\_sphere(Ray \*ray, Sphere \*S)  
void shade\_ray\_diffuse(Ray \*ray, Intersection \*inter, Vect color)

void shade\_ray\_local(Ray \*ray, Intersection \*inter, Vect color)

void shade\_ray\_recursive(int level, double weight, Ray \*ray, Intersection \*inter, Vect color)

These functions were completed in the attached source code. The key point that I would like to acknowledge in this file is that I was not confident in how to modify the .scene file. I am including two screenshots in my submission. The first is the default .scene file and the second screenshot is a slightly modified one. I was not sure what to do so I simply created a more aerial view of the objects.

One primary source for learning that I used is this tutorial/guide on ray tracing: <https://www.scratchapixel.com/lessons/3d-basic-rendering/introduction-to-ray-tracing/how-does-it-work>

\*NOTE: The last time that I submitted a project using Microsoft Visual Studio, it gave you an error about inconsistent line endings. I believe that I have fixed this issue but please let me know if that problem persists so that I can try to fix it. Thank you.