

Computer Science 215
Fall 2003
Project 2 – Basic Ray Tracer

Due: Tuesday, 10/14/2003 5:00 p.m.

Overview

For this project, you will write a basic ray tracer (called ray.c). Your ray tracer should produce a single grayscale image consisting of scene as described below. Future assignments will build upon the code you write for this project.

Description

Your ray tracer should fulfill the following requirements:

- scene geometry must include at least 1 light source, 2 spheres, a checkerboard ground plane, and a sky (or background)
- lighting in the scene should include ambient, diffuse, and specular effects on object surfaces, as well as shadows
- the images should be 500x500 pixels in grayscale (output in pgm format)

As in Project 1, the pgm file can be produced by redirecting stdout.

Your code must be modular and use functions, function pointers, structures, typedefs, and arrays. We will discuss program structure and useful data constructs in class.

Sample Output

Here's a sample scene:

