

Major Program 3: Ray Tracer version 3

Due: December December 11 11:59 p.m.

Overview

In this assignment you will extend the first version of the raytracer using the components you have been building in the short programs and in the lab. New elements that must be supported include: infinite tiled planes, antialiasing, and specular lighting.

Requirements

Your program *must* read the model description from the **standard input**, write the **ppm** image to the **standard output** and write **model dump** and **debugging data** to the **standard error**. You must provide a makefile that will build an executable named ***a.out***

You must include at least as much conditionally compiled debugging code as is described in the notes. You should ***disable*** the debugging code in the makefile you submit by commenting out the macro in which it is defined. You should set **AA_SAMPLES** to 10.

For full credit your program must support ***infinite plane, tiled infinite plane, sphere, finite plane, and omnidirectional light objects*** but may support others objects.

You ***must submit*** two scene models of your own design. One should demonstrate the full capability of your program. Extra credit on the assignment will be awarded for meritorious work that exceeds basic requirements. This one must be named ***mymodel.txt***.

The other one must be named ***model.txt***, and should contain example of ***all objects and lighting that your program supports except procedural planes or other proprietary extensions or objects***. The better ***model.txt*** files will be used in testing everyone's submissions so it is imperative that they contain only ***required*** elements.

Your program must compile without warnings, contain a reasonable level of commenting, consist of independently compiled modules as described in the notes and not contain lines of source code > 72 characters in length.

Sample model files and output data are in ***assns/mp3data***, but the ability to process these inputs correctly does ***not*** guarantee that you have a correct program.