Cosc342 Assignment 2 Ray Tracer

Nick Sparrow (4742998)

Department of Computer Science

University of Otago, New Zealand

May 20, 2016

For this assignment I did most of the testing using the lighting.txt file with its render size made much smaller so that I could test the changes to my code without having it need to render a large image. I started of by getting my diffuse working then moved onto the specular and finally the shadows and mirror refection. I found it easiest to follow the equations in lecture 14 step by step whilst testing the result as I went to check if it all still worked. When I managed to complete a part of the assignment e.g the specular illumination, I made sure to move the camera and lighting around so that I could see if the light was doing what I expected it to do from different angles. This was especially needed when I was doing the shadows to see if they were being cast correctly.

Unfortunately I was unable to complete the cone and CSG parts of the assignment meaning my sample scene was limited to purely spheres, so in attempt to make it more interesting I made a wave of spheres with different colours, specular, diffuse and mirror values to try and show a variety of materials and how the light interacts with them.