

# CSC 473

## Programming Assignment 1 part 4

**Due Wednesday May 22nd, at 11:59pm**

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### Overview

For this portion of your ray tracer, your program needs to:

- handle all previous specifications
- compute intersections and appropriate shading for boxes
- handle large files (e.g. balls.pov and bunny.pov) in reasonable times by including either a bounding volume hierarchy (BVH), binary space partitioning tree (BSP tree) or an oct-tree (ie a spatial data structure) in your code to optimize ray intersection testing
- use anti-aliasing (9 stratified super samples per pixel)
- You may choose to implement texture mapping for this part or part 5 (global illumination)

Example files and results will be posted and announced on email. You will again need to create your own 'pretty' scene that you render and submit the .pov file for.

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### What you should hand in:

- Your code, include all files necessary to compile and run your ray tracer
- A rendering of all example files specified
- A readme file with any information about what is working or not working with your implementation and timings for running the specified files.
- Your own .pov file and rendered image of a complex scene. Be creative and create an interesting scene. Choose colors and an arrangement of geometry that you find pleasing.

You need to handin your code and images generated using handin:

handin zwood csc473p4 <your\_files>

**Be sure to include all files necessary to compile and run your ray tracer. We might all demo rendered images Thursday May 23<sup>rd</sup> in lab (stay tuned).**