CMSC 23700 **Introduction to Computer Graphics** **Project 1b**
Fall 2005 **October 26**

Ray tracer (Part b)

Due: November 11

Part-b of Project 1 will use the same code base and CVS module as for part-a. For Part-b of the project, you are responsible to complete your implementation from Part-a. Specifically, you should add implementations of the following GML operations:

Name	Description
`cone`	a unit cone
`cube`	a unit cube
`cylinder`	a unit cylinder
`difference`	difference of two solids
`intersect`	intersection of two solids
`spotlight`	defines a spotlight source

See Handout 3 (Project 1 Overview) for details on these operations. The main complication in this phase is that you must generalize your ray intersection code to handle the full set of CSG operators.

As part of this implementation, you should implement some sort of bounding volume hierarchy (*e.g.*, a tree of bounding spheres). The global `BoundingVol` should be used to enable/disable tests against the BVH. For extra credit, you may add jitter support to your ray tracer (controlled by the global `JitterFlg`).

We will collect the projects at 9pm on Friday November 11 from the repositories, so make sure that you have committed your final version before then.