Project 1 -- Computer Graphics I
Enabling Views and Projections

Description:

In this project you will set up a scene with multiple objects and allow the user to control the projection and the view. The objects are to be read in through Wavefront .obj files and will (may?) include normal information but you do not need to use the normals. The faces of the polygons will all be triangles and the data can be read in through the readobj function that was discussed in class or the readfile functions that will also be discussed in class. All will be posted to the BlackBoard site for the course.

Details:

You will use keystrokes in this project to change projection methods. You will also use keystrokes to change the view point for the scene. The objects in the scene can be placed at random and they may be rotated different amounts around the y axis to make them look different. The keystrokes for the commands are:

P or p --- Use perspective for the projection.
O or o -- Use an orthographic projection.
X or x -- Look down the x axis at the scene.
Y or y -- Look down the y axis at the scene.
Z or z -- Look down the z axis at the scene.
Q or q -- Quit the program

A group of .obj files will be provided. I will do my best to keep the orientation so that up is along the y axis and the center of the base is near or at the origin. Scales may vary significantly and you may have to scale objects appropriately to use them.

Hints:

Start simple. Start with a couple of objects (possibly the cubes from project 0?) and test out how the commands will work and look. Add in additional objects in small groups to make sure that you don't get to a point where you can't tell what you are looking at.

Submission:

Submit all of your source files and the Wavefront .obj files that your program uses in the spot for the project on the BlackBoard site.

Wavefront .obj Files

Filename	Description	X extent	Y extent	Z extent
elephantTriangles.obj	An elephant	-1.0 to 1.0	0.0 to 1.0	-1.0 to 1.0