Programming Project 2
Computer Graphics I
Due:

Description:

You are to move an object around a path. The object may be simply colored (colors for each vertex, no lighting), or it may use directional lighting. The object should come in from a Wavefront .obj format file. There are a number of simple figures that will be made available to you for the project.

Details:

The object that you are to use should be roughly centered – I'll try to adjust the objects before post them. The path that you are to follow is given as a set of 3 parametric equations.

$x(t) = 5 \sin (t + \pi/2)$

$y(t) = 0.0$

$z(t) = 5 \sin (2t)$

There are a couple of simple figures to be placed in your scene. They are a simple cylinder and a pair of cones connected at the base. These figures are centered at the origin but should be translated to (2.0, 0.0, 0.0) and (-2.0, 0.0, 0.0).

You will need to adjust your update speed to allow a relatively reasonable speed as the object moves around the path.

You should be able to step through the motion using the "S" key. Once the "S" key is pressed your program should go into a step by step mode where the position is updated by one step each time the "S" key is pressed (instead of each time the image is redrawn). You should use the "C" key (for continuous) to return to the mode where the object moves without user interaction.

Submission:

Submit your project in the spot provided by BlackBoard. Include your source files, and your vertex and fragment shader. If you alter your .obj file or use a different .obj file that should be included as well.