Problem Definition: In his project you are to construct a robot arm that sits on a table. Use Blender to create the car and segments (base, lower_arm, upper_arm, hand, pinchers) of the arm. Use the attached OpenGL robot example to help in the creation of your main program. Use perspective viewing and the following key commands to drive the simulation.

Uu: Rotate upper arm both ways.
Ll: Rotate lower arm both ways
Bb: Rotate base both ways
Hh: Rotate hand both ways
Pp: Open and close pinchers.
Cc: Move car forward and backward

At the right is a partial example of an arm you might create with OpenGL. Of course the hand, pinchers etc are missing. This example has 3 degrees of freedom assuming the base turns as well. Design your own robot arm that is different from this one and do so that it has 4 degrees of freedom. Use materials to make the parts different colors. Also use smooth shading (Phong). Extra credit will be given if you pick something up.

Remember to rotate an arm (or anything else for that matter) it must be translated to zero, rotated and then translated back. This implies that you need to pay special attention to the position of each object that you create as well as the exact location of the rotation points etc. Decide on a scale and use the Numeric option to make objects have exact sizes and position.

Turn In: A well-documented hardcopy together with a CD or jump drive (tested to work of this media) with source and executables, ie project.