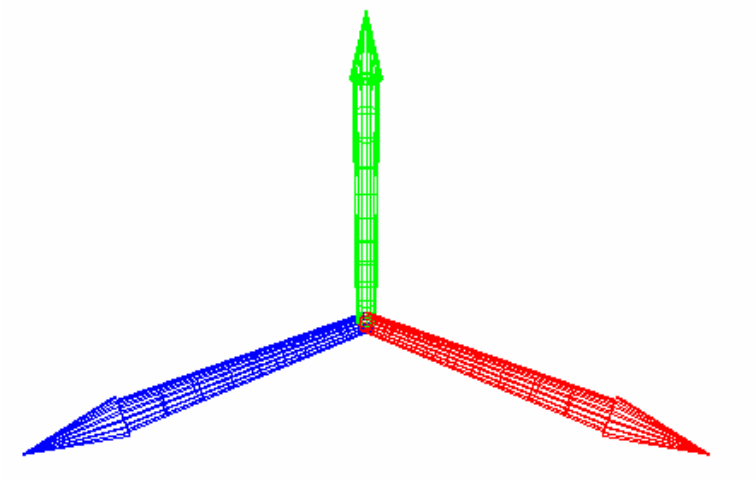
Write an OpenGL/GLUT program to display this set of coordinate axes:



Requirements:

1. *Perspective* projection
2. Draw in *wireframe* (**`gluQuadricDrawStyle`** is **`GLU_LINE`**)
3. You must create and use these (and only these) display lists:

   `arrowhead = glGenLists(1)`
   uses `gluDisk` and `gluCylinder`
   length = 2.0
   base radius = 0.625

   `arrowshaft = glGenLists(1)`
   uses `gluCylinder`
   radius = 0.5
   length = 10.0

   `arrow = glGenLists(1)`
   hierarchically uses **`arrowhead`** and **`arrowshaft`**

   `XYZaxes = glGenLists(1)`
   hierarchically uses **`arrow`**

4. X-axis = red, Y-axis = green, Z-axis = blue
5. Axes rotate around theY-axis when left/right arrow key is presed
6. Axes rotate around the X-axis when up/down arrow key is pressed
7. The set of three axes are drawn by one single call: **`glCallList( XYZaxes )`**