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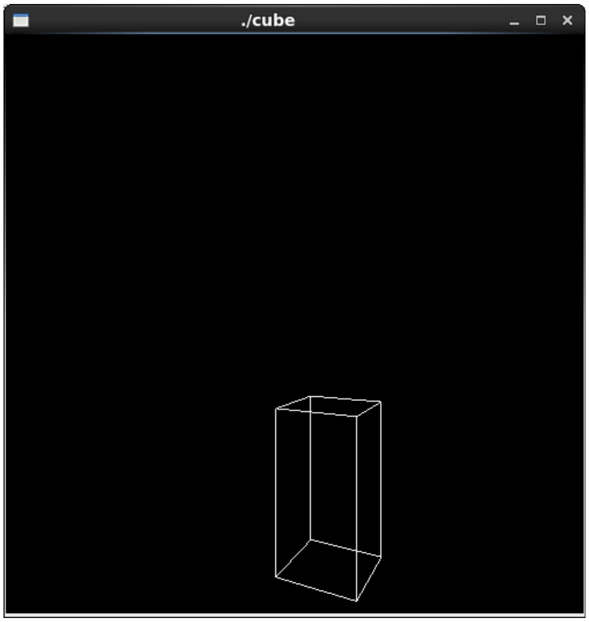
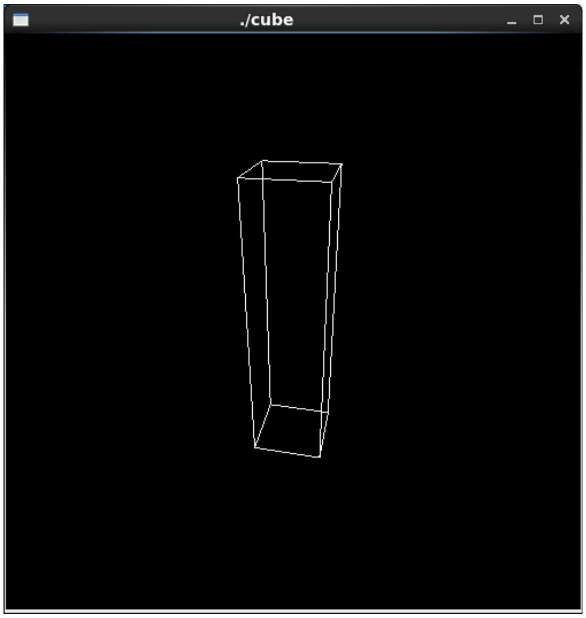
Lab 12

Try the program cube.cpp discussed in class. Change parameters of gluLookAt() and glScalf() to see their effects on rendering.

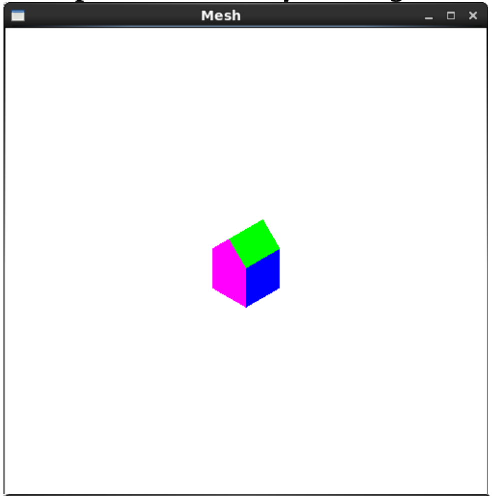


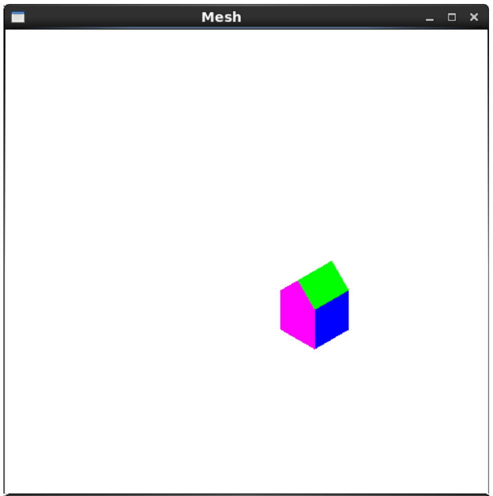
gluLookAt (2.0, 2.0, 5.0, 1.0, 2.0, 3.0, 0.0, 1.0, 0.0)

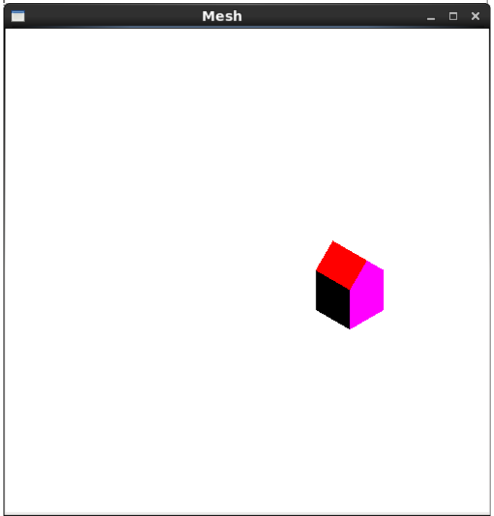


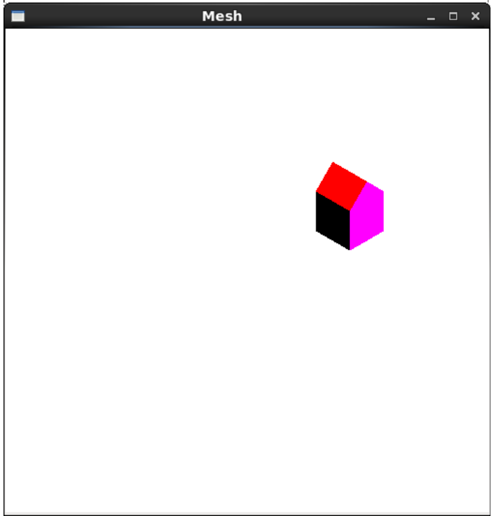
glScalef (1.0, 4.0, 1.0)

Now make a simple animation of rotating the barn.









```
void display(void)
{
  glMatrixMode( GL_PROJECTION );
  glLoadIdentity();
  glOrtho(-5.0, 5.0, -5.0, 5.0, 0.1, 100 );
  glMatrixMode(GL_MODELVIEW); // position and aim the camera
  glLoadIdentity();
  gluLookAt(8.0, 8.0, 8.0, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0);

  glClear(GL_COLOR_BUFFER_BIT);
  glClearColor (1.0, 1.0, 1.0, 1.0);
  Mesh msh;
  msh.readFile( DATA_FILE );
  msh.drawMesh();
  glFlush();
  SDL_Delay ( 1000 );
  glPushMatrix();                //save current matrix M
  glTranslatef ( 2.0, 0, 0 );    //move in x-direction
  glClear(GL_COLOR_BUFFER_BIT);
  msh.drawMesh();
  glFlush();
  SDL_Delay ( 1000 );
  glRotatef ( 90, 0, 1, 0 );     //rotate about  y-axis for 90
  glClear(GL_COLOR_BUFFER_BIT);
  msh.drawMesh();                //rotate then translate
  glFlush();
  SDL_Delay ( 1000 );
  glPopMatrix();                 //restore maxtrix M
  glRotatef ( 90, 0, 1, 0 );
  glTranslatef ( 2.0, 0, 0 );    //translate then rotate
  glClear(GL_COLOR_BUFFER_BIT);
  msh.drawMesh();
  glFlush();
}
```

Report:

The first part of the lab is pretty straight forward. The second part was a little bit tricky at first but after class I got it right. I finished this lab successfully.