

**MSIM 441/541 & ECE 406/506
Computer Graphics & Visualization**

Homework Ten

Assigned December 3, Due 12:00 PM December 10

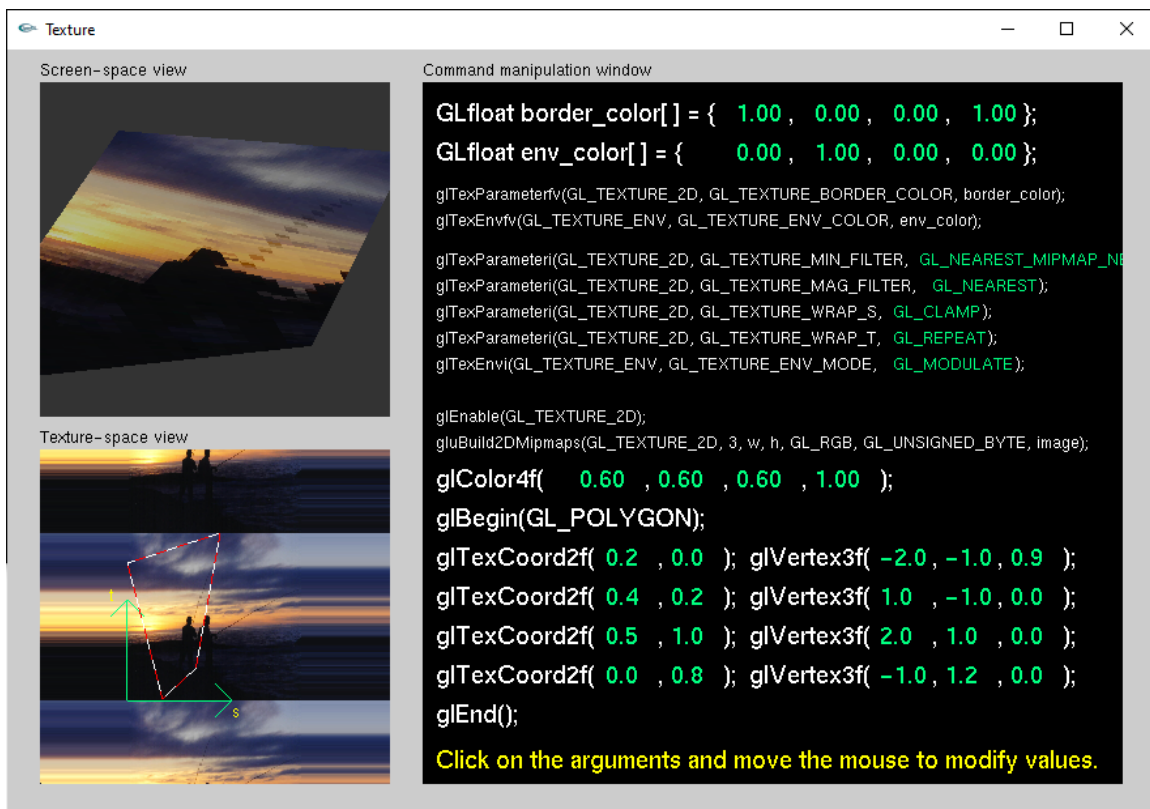
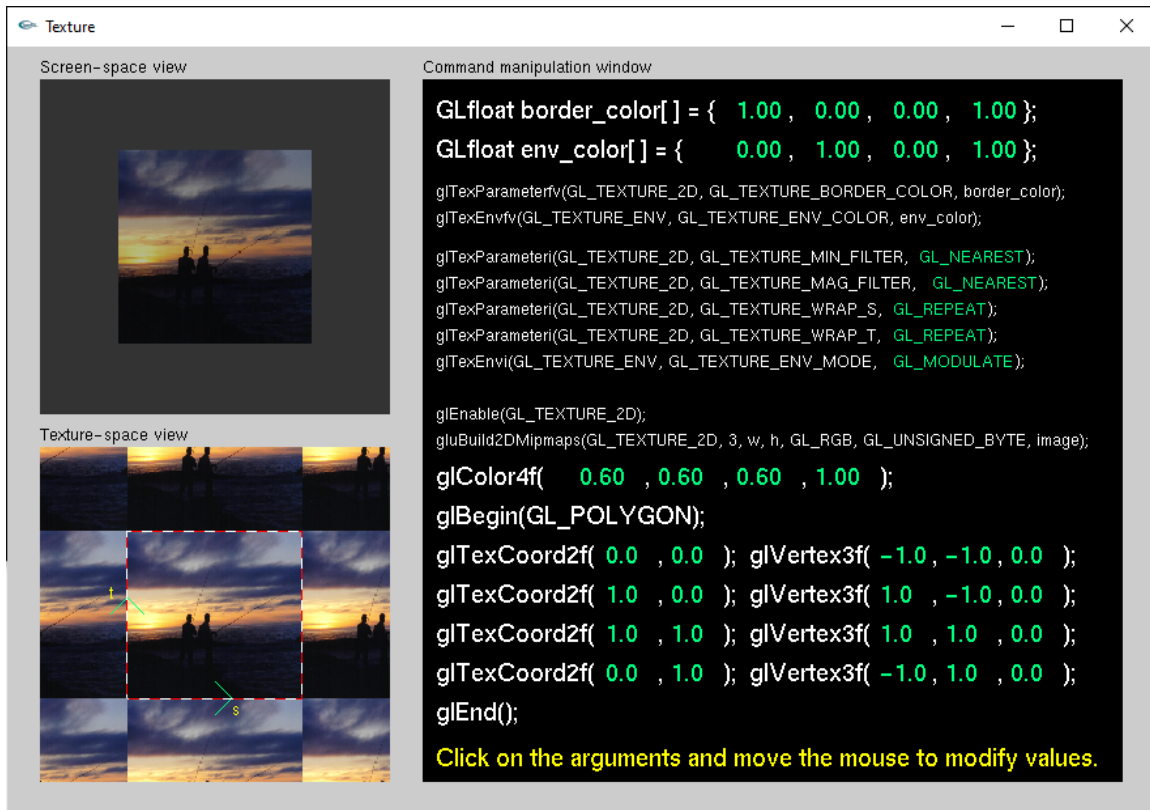
Thomas J Laverghetta

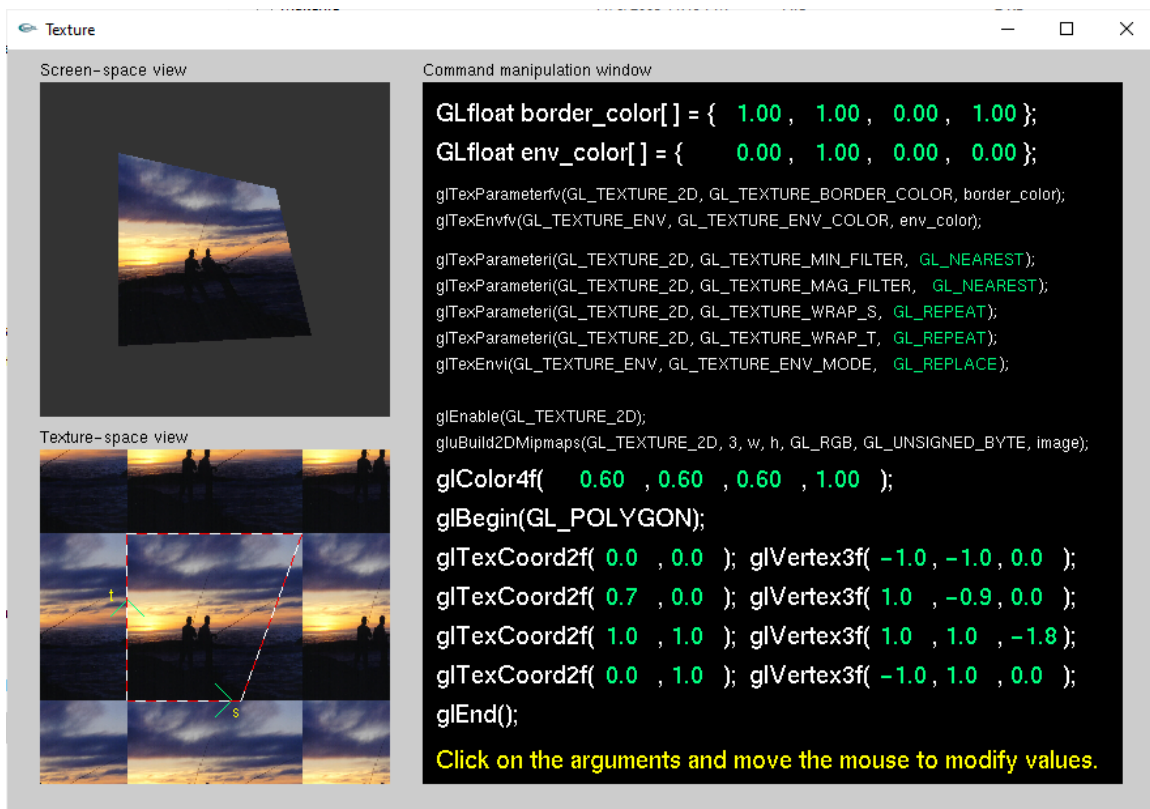
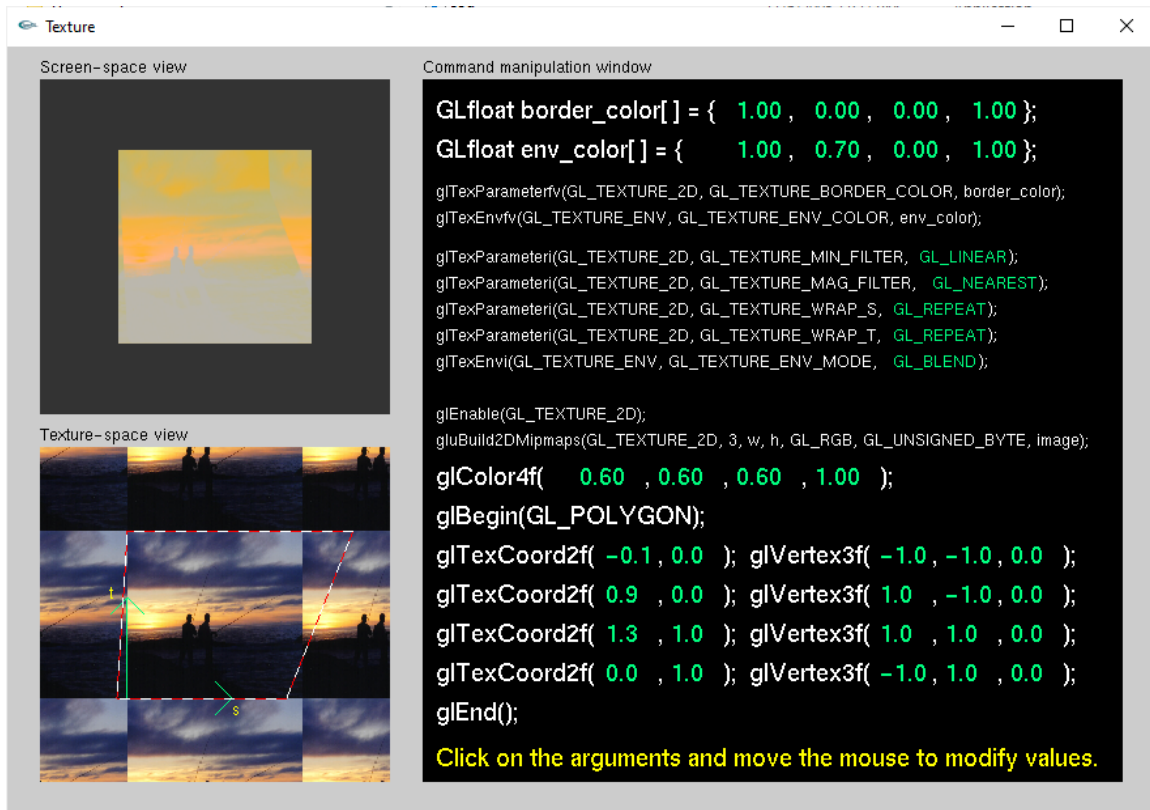
Tasks

1. Why is JPEG the most widely used image format on the Internet?
 - 1) Answer: Because of it is a widely used image standard and it has a high compression ratio.
2. Describe the steps to map a 2D texture image to an arbitrary 3D surface.

Answer: The steps are the following:

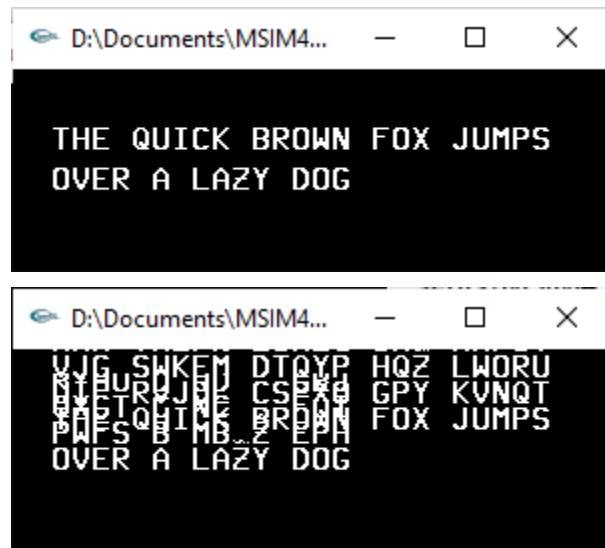
 - 1) First step maps the texture to a simple 3D intermediate surface (e.g., sphere, cylinder, cube, etc.)
 - 2) Second step maps the intermediate surface to the surface being rendered
3. Define magnification and minification.
 - 1) Answer: A pixel on the screen correspond to a tiny portion of a texel.
4. How many levels of mipmaps are generated for an image of size 256 x 256?
 - 1) Answer: A pixel on the screen correspond to a large collection of texels.
5. Run the following programs, experiment with various parameters, and capture several program windows.
 - 1) Nate Robin's tutorial: texture.exe



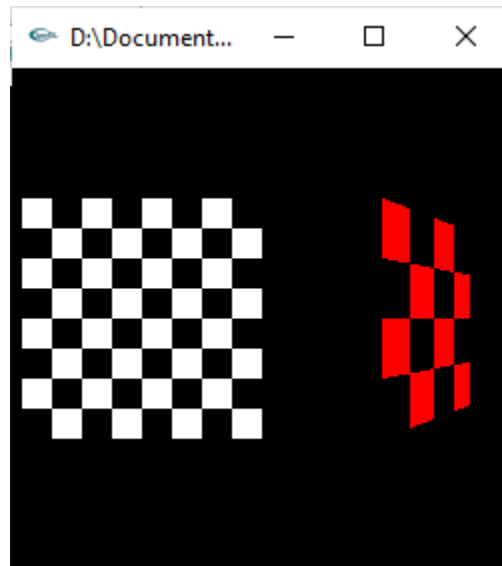


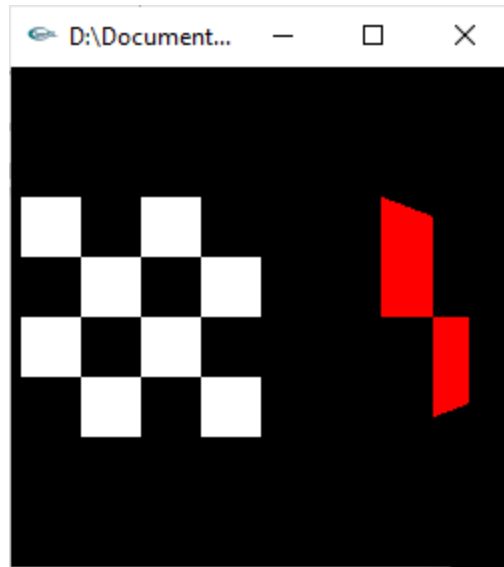
2) OpenGL red book: font.c, texbind.c, mipmap.c, texgen.c

- Font.c

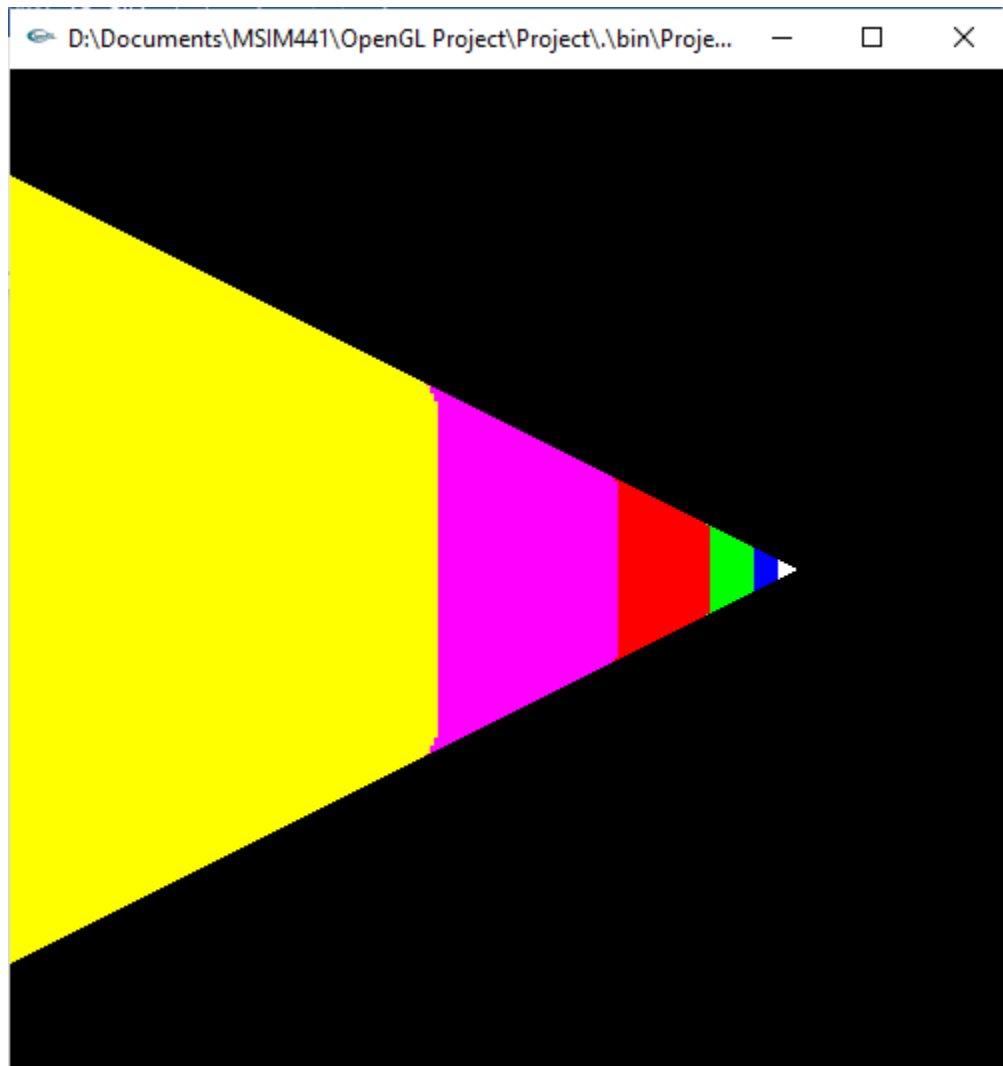


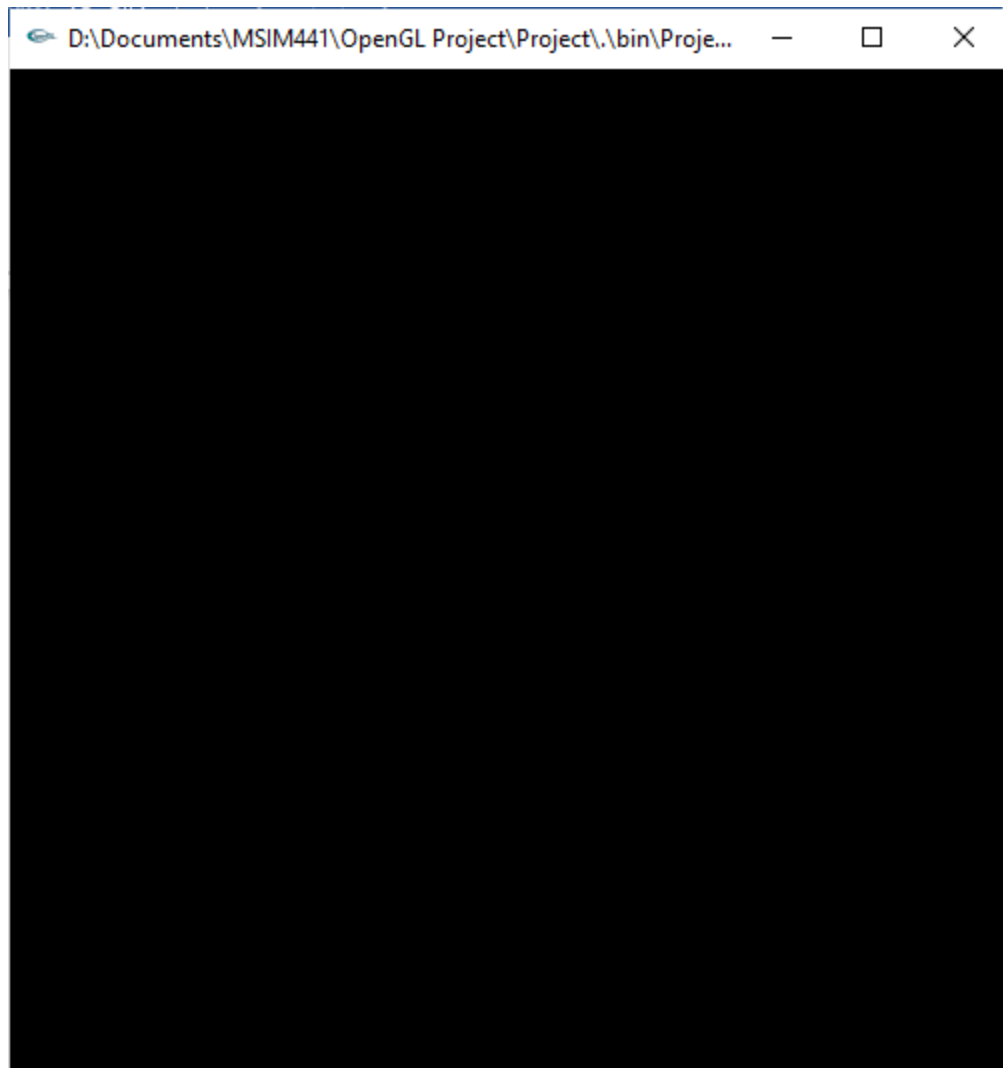
- Texbind.c





- Mipmap.c





- texgen.c:

