Outline

- Camera setting and movement
- Lighting and shading
Camera Setting & Movement

- `gluLookAt(eye[x, y, z], center[x, y, z], up[x, y, z])`
Camera Setting & Movement

• cube.c
Perspective v.s Orthographic

- Perspective: with foreshortening. i.e., the farther, the smaller
- Orthographic: without foreshortening
Perspective

- `glFrustum(left, right, bottom, top, near, far)`

*Figure 3-13  Perspective Viewing Volume Specified by glFrustum()*
Perspective

- `gluPerspective(fovy, aspect, near, far)`

Figure 3-14  Perspective Viewing Volume Specified by `gluPerspective()`
Orthographic

- \texttt{glOrtho(left, right, bottom, top, near, far)}
Lighting & Shading

- What lighting is used?
- How objects reflect the light?
Lighting

- `glLight(GLenum light, GLenum pname, TYPE param)`
- `light`: `GL_LIGHT[0-7]`
- `pname`: `GL_AMBIENT`, `GL_DIFFUSE`, `GL_SPECULAR`, etc.
Material

- `glMaterial(GLenum face, GLenum pname, TYPE param)`
- `face`: GL_FRONT, GL_BACK, GL_FRONT_AND_BACK
- `pname`: GL_AMBIENT, GL_DIFFUSE, GL_AMBIENT_AND_DIFFUSE, GL_SPECULAR, etc.
Lighting & Shading

- light.c
Example Code

• Example code discussed today can be found at ftp://ftp.sgi.com/opengl/opengl14.tgz

• Nate Robin’s tutorial: http://www.xmission.com/~nate/tutors.html
Questions?
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