

Lighting in OpenGL

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1 Administrivia

Announcements

Take-home exam. When? You're ready now.

Assignment

Read 6.7–9 (6.1–5).

Do/finish the lab, run `lightLab.c` with flat shading rather than smooth shading.

From Last Time

Finished Phong light model.

Outline

1. Walk-through of lighting calls in `lightLab.c`.
2. Lighting lab.

Coming Up

Continuation of lab.

2 Lighting in OpenGL

Pertinent functions (line numbers refer to code handout):

1. `glShadeModel()` (269): `GL_SMOOTH`, `GL_FLAT`
2. `glMaterial*()` (271–274):
 - (a) Face: `GL_BACK`, `GL_FRONT_AND_BACK`
 - (b) Parameter name:
 - i. Shininess range: 0–128.
 - ii. `GL_AMBIENT_AND_DIFFUSE`
 - iii. `GL_EMISSION`
 - (c) Parameter: scalar for shininess, vector for other parameters.
3. `glLight*()` (145, 276–278):
 - (a) Light: 8 lights.
 - (b) Parameter name: see man page for other names
 - (c) Parameter: some scalar, some vector.

The fourth value in a light's position.
4. `glEnable()` (280–285):
 - (a) `GL_LIGHTING`

(b) `GL_LIGHTx`

(c) `NORMALIZE`

`glDisable()`

These are all modal.

Can turn lighting on and off.

Normal normals and non-normal normals.

3 Hands-On Lab

Grab a copy of `lightLab.c` from class Web page and begin experimenting.