Lighting in OpenGL

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1 Administrivia

Announcements

Take-home exam; you're ready now. When? (Or, keep to Apr. 29?)

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.