

CSE 167 - Intro to Computer Graphics - Fall 2003

Homework #2 — “Due” November 13

This homework is not to be handed in.

Selected answers available Nov. 13.

1. Give 4×4 matrices that represent
 - a. The translation specified by `glTranslatef(1, 2, -1)`.
 - b. The rotation specified by `glRotatef(30.0, 0, 1, 0)`.
2. A point light source is located at $\langle 0, 10, 0 \rangle$ and casts shadows onto the xz -plane. If a vertex is located at position \mathbf{x} , let $A(\mathbf{x})$ be the position of the vertex's shadow in the xz -plane (so the y -coordinate of $A(\mathbf{x})$ is zero).

Give a 4×4 matrix that represents the transformation $\mathbf{x} \mapsto A(\mathbf{x})$ in homogenous coordinates.
3. Problem III.1, page 75.
4. Problem III.3, page 80.
5. Problem III.4, page 80.
6. Problem III.5, page 80.
7. Problem IV.1, page 100.
8. Problem IV.4, page 103-104.
9. Problem IV.5, page 107. (This type of problem will not be on the midterm.)