

COSC 338 – Exam #2
Review Questions
Spring 2008

- 1.) What does the orthographic projection matrix look like?
- 2.) Give the complete method signatures for orthographic project, frustum projection and perspective projections and include a picture of what each of these would look like.
- 3.) What does the translation matrix look like assuming a translation of (2, 5, 4)?
- 4.) Give the rotation matrix given a rotation around the x axis of theta degrees.
- 5.) To fully describe a graphics system in mathematical terms we need three items, what are they?
- 6.) What operations are available in affine spaces?
- 7.) What does it mean if a set of vectors is linearly independent?
- 8.) Give the complete method signature for LookAt in OpenGL and describe what this method does (pictures help).
- 9.) Give the basic code to specify a 2x2x2 cube. Color each side with a different color.
- 10.) List five different 3d objects specified by GLUT and their method signatures.
- 11.) How do we specify an inward facing face rather than an outward facing face in OpenGL?
- 12.) Describe axonometric and oblique projections.
- 13.) What is the fundamental difference between classic viewing and computer viewing?
- 14.) Give the equations for determining the x, y, z location of a point (a, b, c) on our projection plane in an default orthographic projection.
- 15.) If I make a change to the model-view matrix (via translation or rotation functions) what is actually changed in our graphics system?
- 16.) Give the code to specify a Utah teapot in wireframe and rotate it along the x axis 35.6 degrees.