

## Exercise #4: Texture Mapping

Modify the ‘`TransformTest.java`’ file that you finished in **Exercise 3** to create a ‘`TextureTest.java`’ file that provides the following additional features:

1. Add a “sky” background to the scene.
  - Create a rectangular “*sky*” with two opposite corners at  $(-11000, -11000, 0)$  and  $(11000, 11000, 0)$  respectively.
  - Paste the [\*hemi.gif\*](#) image onto the rectangle.
2. Replace the `ColorCube` with a textured cube
  - Make sure that the two opposite corners of the cube are at  $(-1, -1, -1)$  and  $(1, 1, 1)$  respectively.
  - Maintain the position of the cube in the scene as in **Exercise 3**.
  - Paste the six images [\*grass.jpg\*](#), [\*wall.jpg\*](#), [\*bricks.jpg\*](#), [\*roof.jpg\*](#), [\*bridge.jpg\*](#), and [\*courtyard\\_seamless.jpg\*](#) onto the front, back, right, left, top, and bottom sides of the cube respectively.
3. (Optional) Add another textured cube to the scene, and hide it.
  - Create a cube with two opposite corners at  $(-1, -1, -1)$  and  $(1, 1, 1)$  respectively.
  - Rotate the cube for 0.25 in radians around both its x- and y-axes, and places it five meters right behind the previous cube.
  - Paste the [\*earth.jpg\*](#) image onto the cube.