Exam – Computer Graphics
19 April 2006, 8-13

1. What is rendering? Describe the various steps involved.

2. What is linear interpolation? Describe how it can be done in two dimensions.

3. (a) What is double buffering and for what purpose is it used? *(0.5)*
   (b) Why are the individual triangles not visible after Gouraud- or Phong-shading of a mesh? *(0.5)*

4. When can the so called minification problem occur and what is it? Describe a technique which can be used to solve it.

5. What is drawn on the screen after a call to the function draw() below?

```
def draw():
    glColor(1,0,0)
    glPushMatrix()
    glScale(1,2,1)
    glTranslate(2,0,0)
    glRotate(270, 0,0,1)
    glPushMatrix()
    glTranslate(1,1,0)
    drawSquare()

    glColor(0,1,0)
    glPopMatrix()
    glPushMatrix()
    glTranslate(2,0,0)
    glScale(1,2,1)
    glRotate(180, 0,0,1)
    drawSquare()


def drawSquare():
    glBegin(GL_QUADS)
    glVertex(0,0,0)
    glVertex(0,1,0)
    glVertex(1,1,0)
    glVertex(1,0,0)
    glEnd()
```

6. Blinn-Phong is an approximation of Phong's reflection model. Explain how they differ. Describe when and how they give different visual results.

SLUT!