1. Explain the difference between a vertex and fragment shader.

2. Given a normal vector $N <1, 3, 7>$ and a light source vector $L <0, 2, 5>$. Compute the reflection vector and the half vector. Don't forget to normalize.

3. Describe what I might do if I wanted to make my object bumpy, but not change the actual object. (You don't need to say anything about implementation, just theory)

4. This is a texture map with $u, v$ coordinates listed:

   a. Draw the approximate mapping on each quad if they were textured using the above image.

   b. Describe the difference between bump mapping and texture mapping.