REVIEW OF LIGHTING

- LIGHT
- MATERIAL
- AMBIENT
- DIFFUSE
- SPECULAR

LIGHT ATTENUATION WITH DISTANCE
- SPOTLIGHTS
- 2 SIDED FACES
- MUST SPECIFY NORMALS

EFFECT OF LOCAL LIGHTS

LOCAL LIGHTS
-DISTANT
You can have some lights fixed in scene and others moving with viewer. It depends on modelview matrix when you set the light pos

\[
\text{attenuation} = \frac{1}{\text{distance} + \sqrt{\text{distance}^2 + \text{distance}^2}}
\]

factor = \frac{1}{(\text{distance} + \sqrt{\text{distance}^2 + \text{distance}^2})}

settable: \text{distance}
\( \mathbf{v}(1, 1, 1, 0) \) at \( \mathbf{w}(1, 0, 0) \) and \( \mathbf{u}(1, 1, 1, 0) \) at \( \mathbf{w}(1, 0, 0) \).

At \( \mathbf{w}(0, 0, 0) \), \( \mathbf{v}(3, 3, 3) \) is formed.

\( \mathbf{v}(1, 1, 1, 1) \) at \( \mathbf{w}(0, 0, 0) \).

\( \mathbf{v}(1, 1, 1, 0) \) at \( \mathbf{w}(1, 0, 0) \).
DIFFERENT WAYS TO SPEC COLORS.

1. SET COLOR @ VERTS
2. SET LIGHT + MATERIAL PROPERTIES. USE PHONG LIGHTING EQUATION.
3. COMBINE 1 + 2.

WHY? A GETS MATERIAL COLORS FROM A COLOR ARRAY. YOU DON'T CALL A ROUTINE WITH EACH COLOR CHANGE.
You specify the vertex colors. What color is this?

Next, texture map.