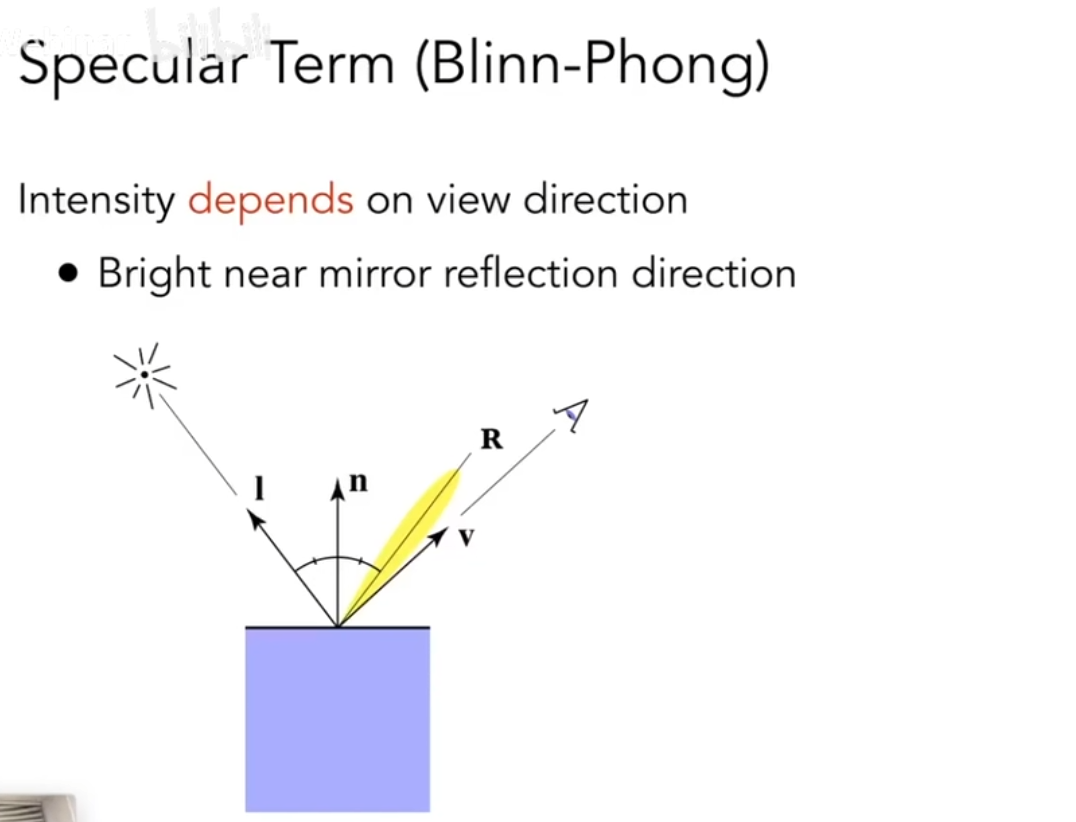
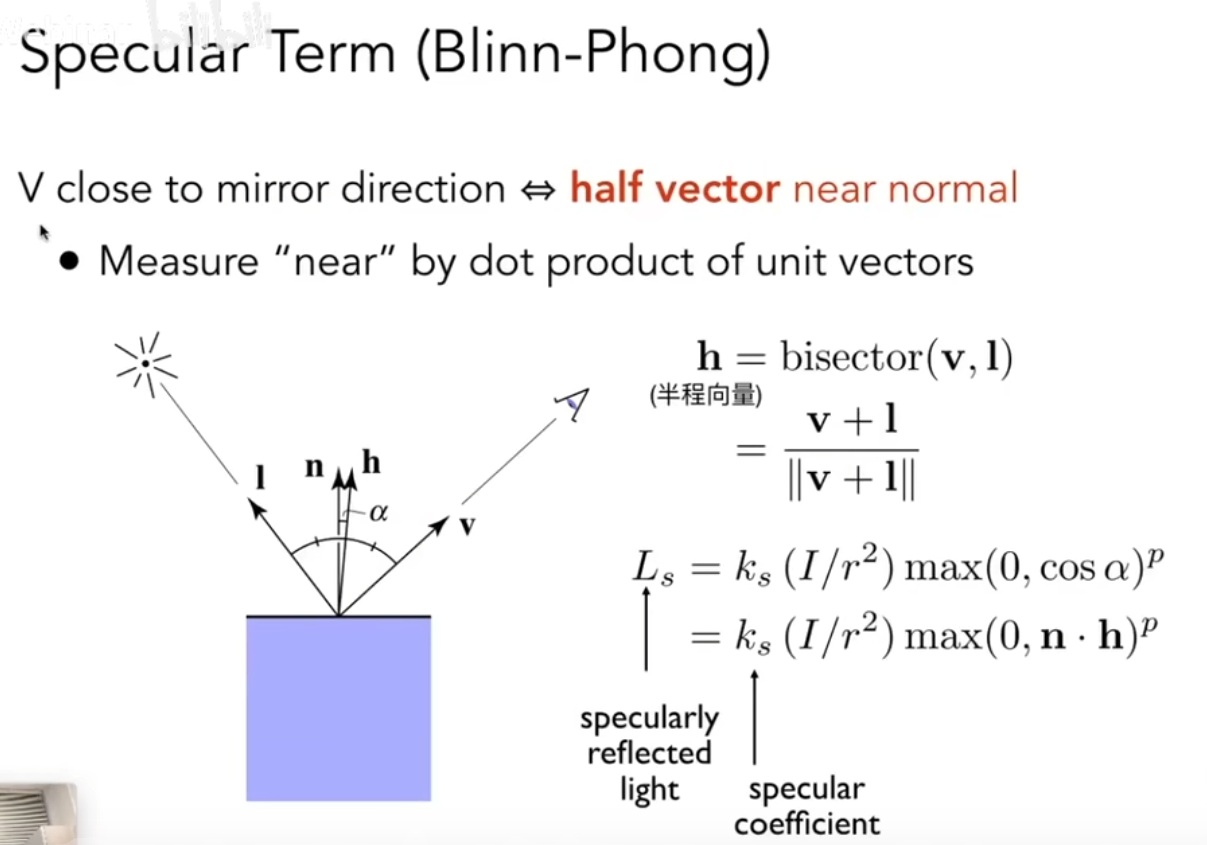


高光相

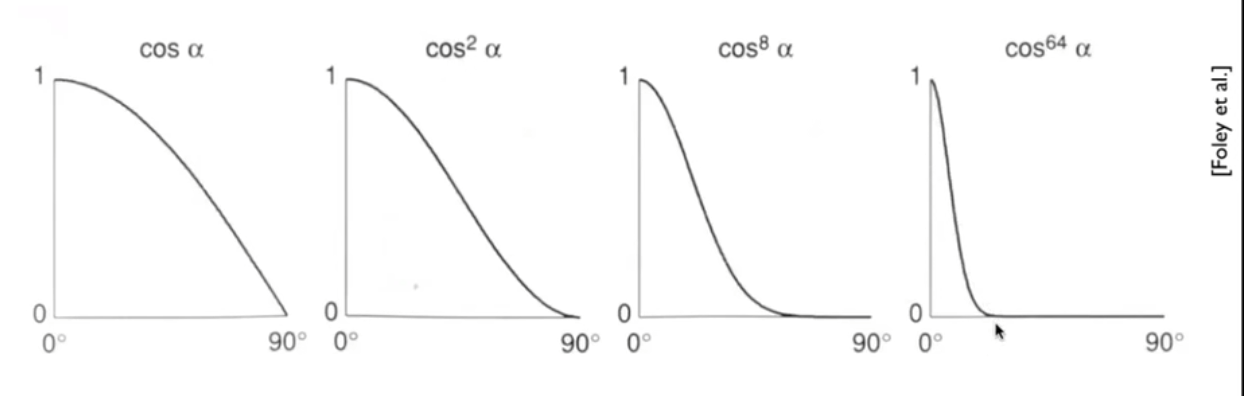




考虑半程向量与法线的夹角

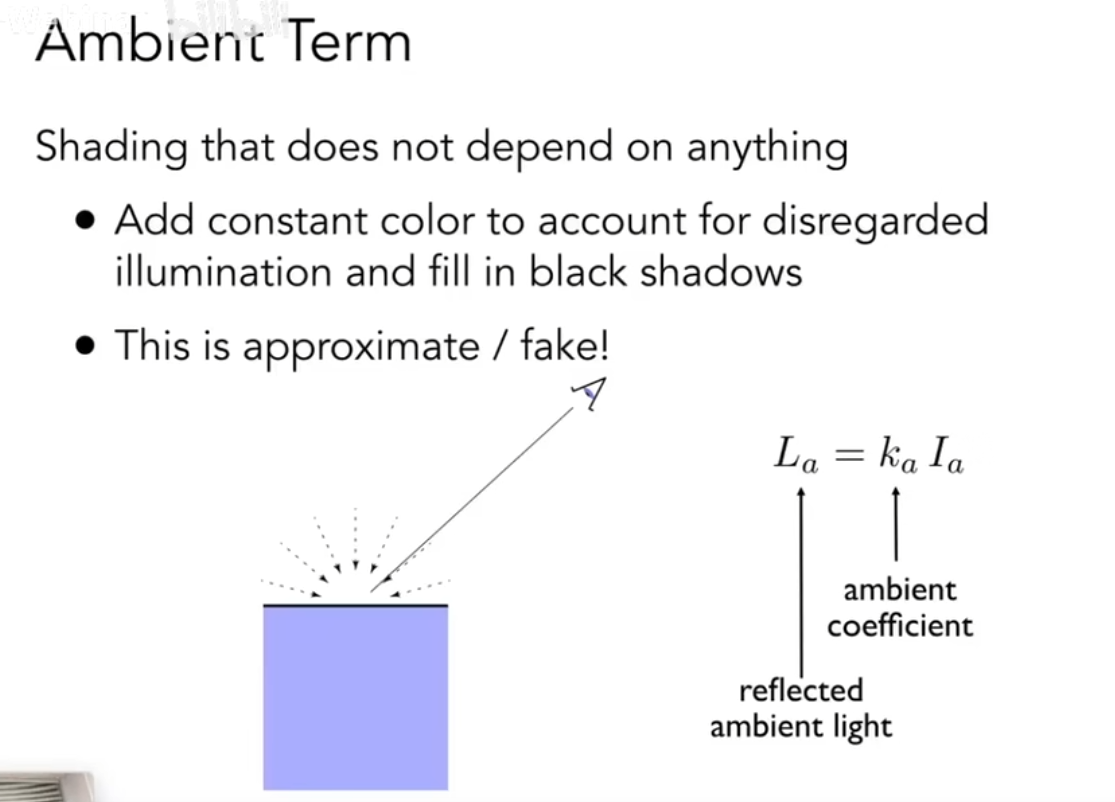
因为更好计算

P次方是为了避免高光区域过大，控制高光大小

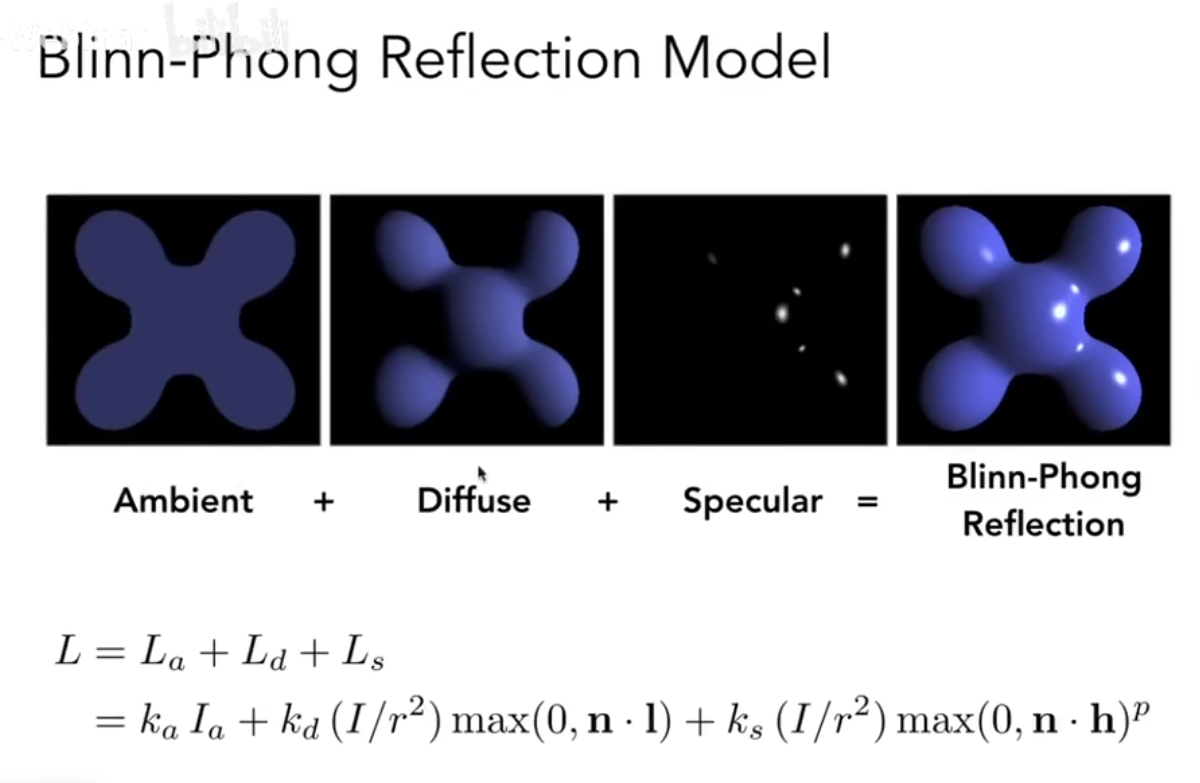


通常是100到200

环境光照

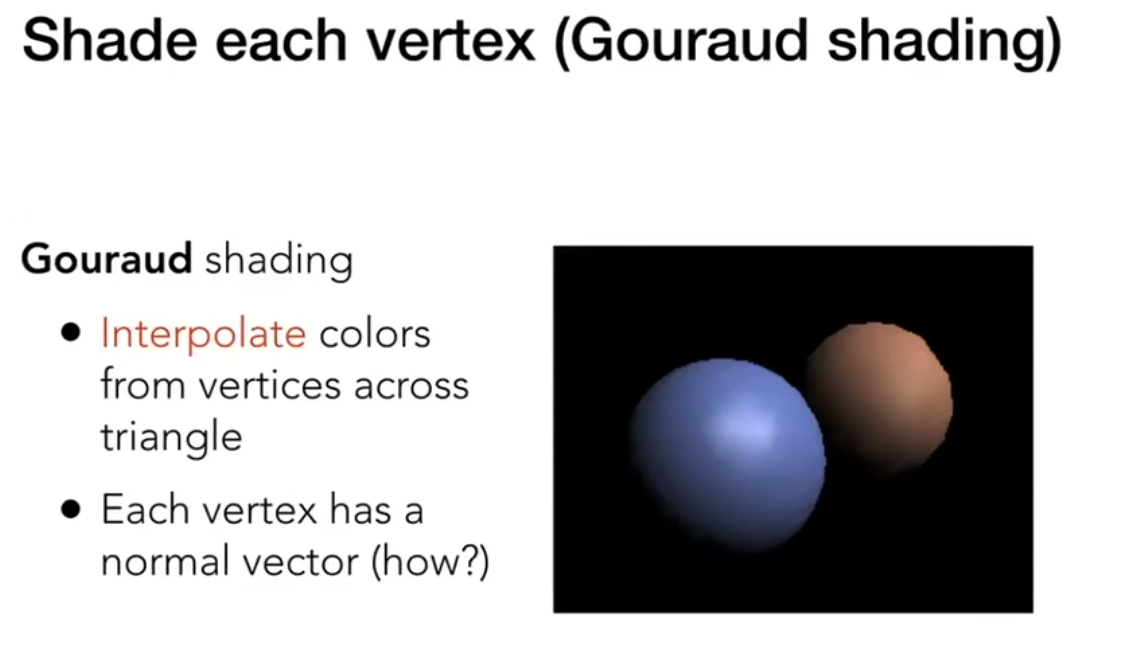


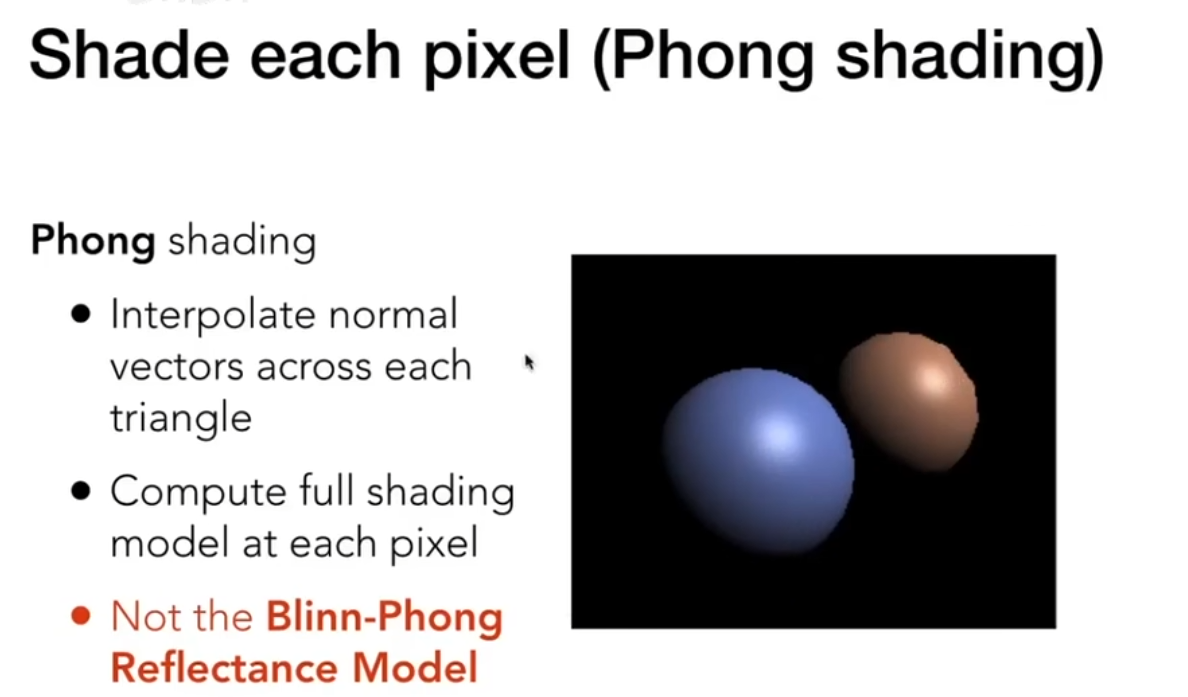
假设环境光是定值



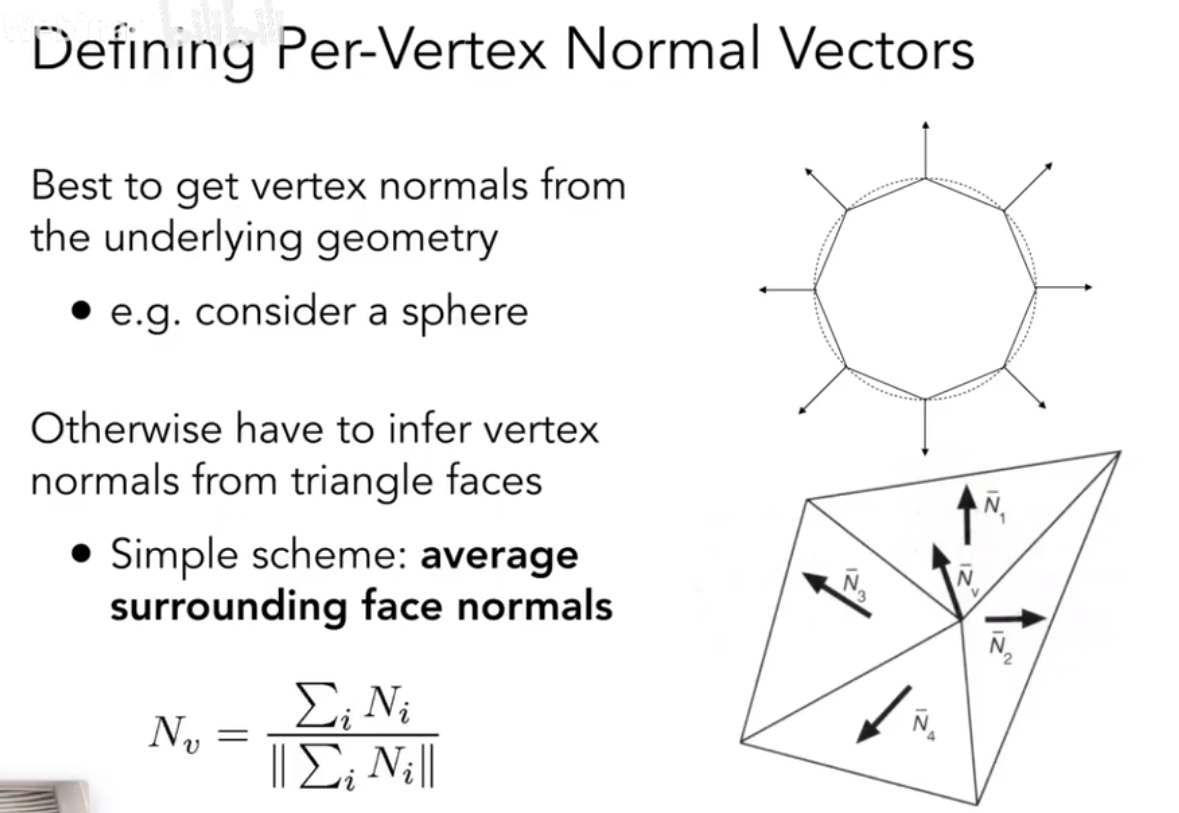
各项相加



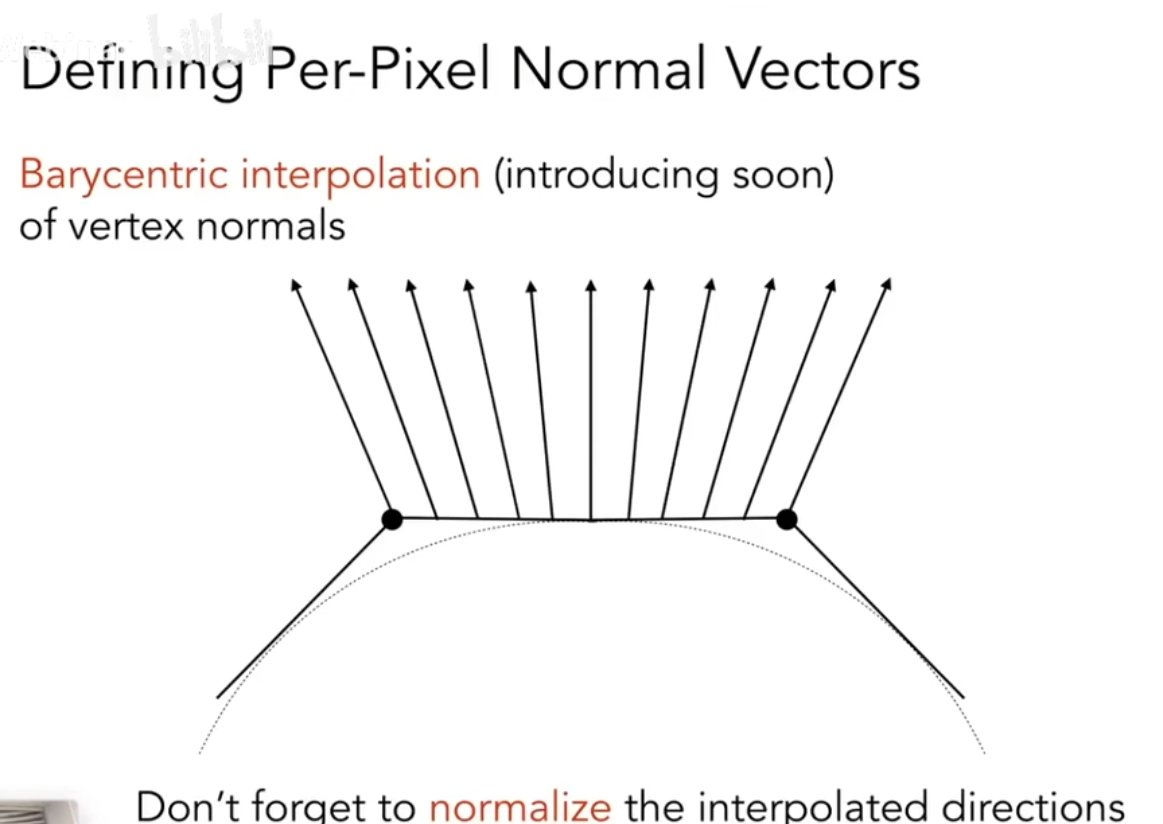




三种着色频率

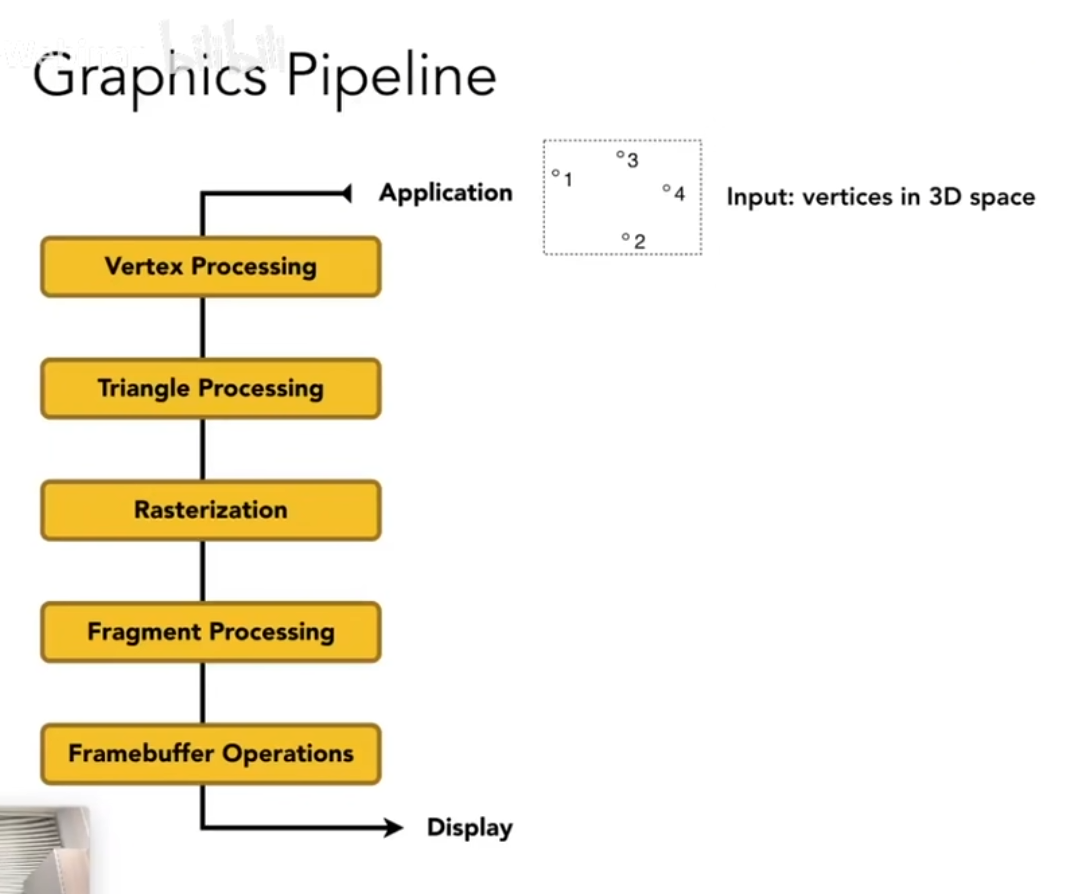


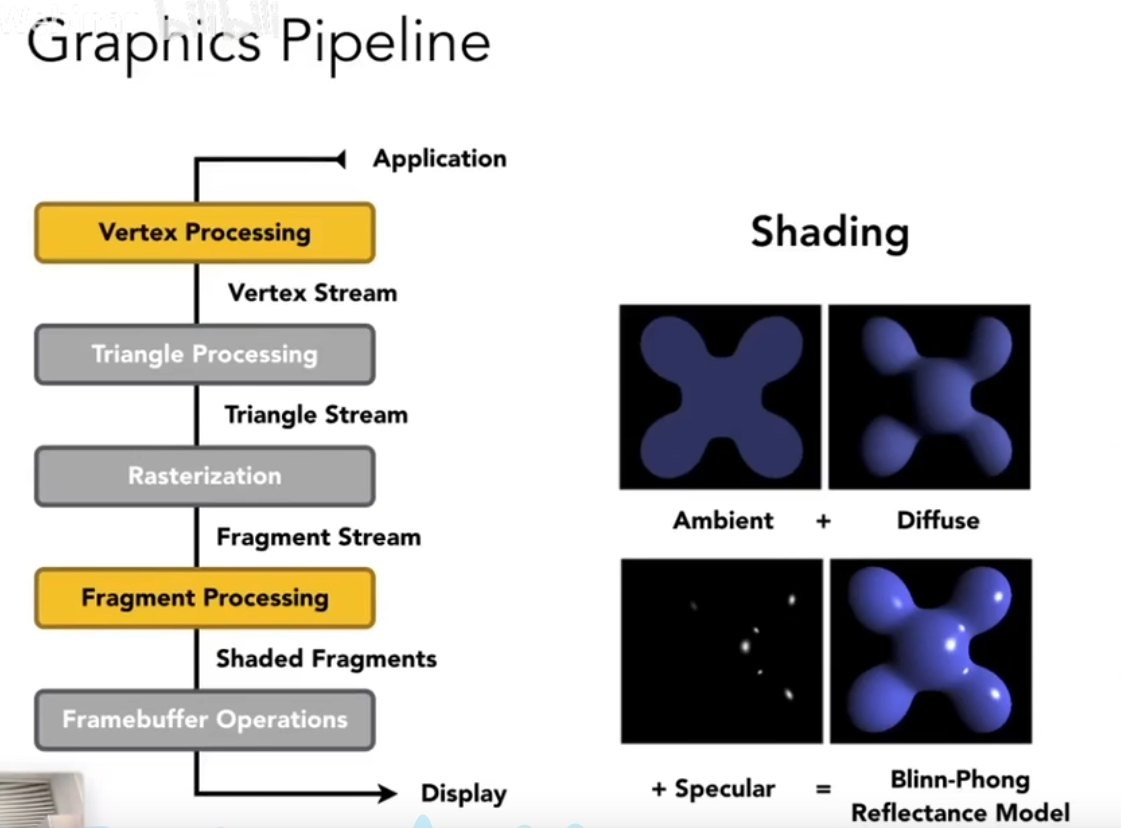
求逐顶点的法线



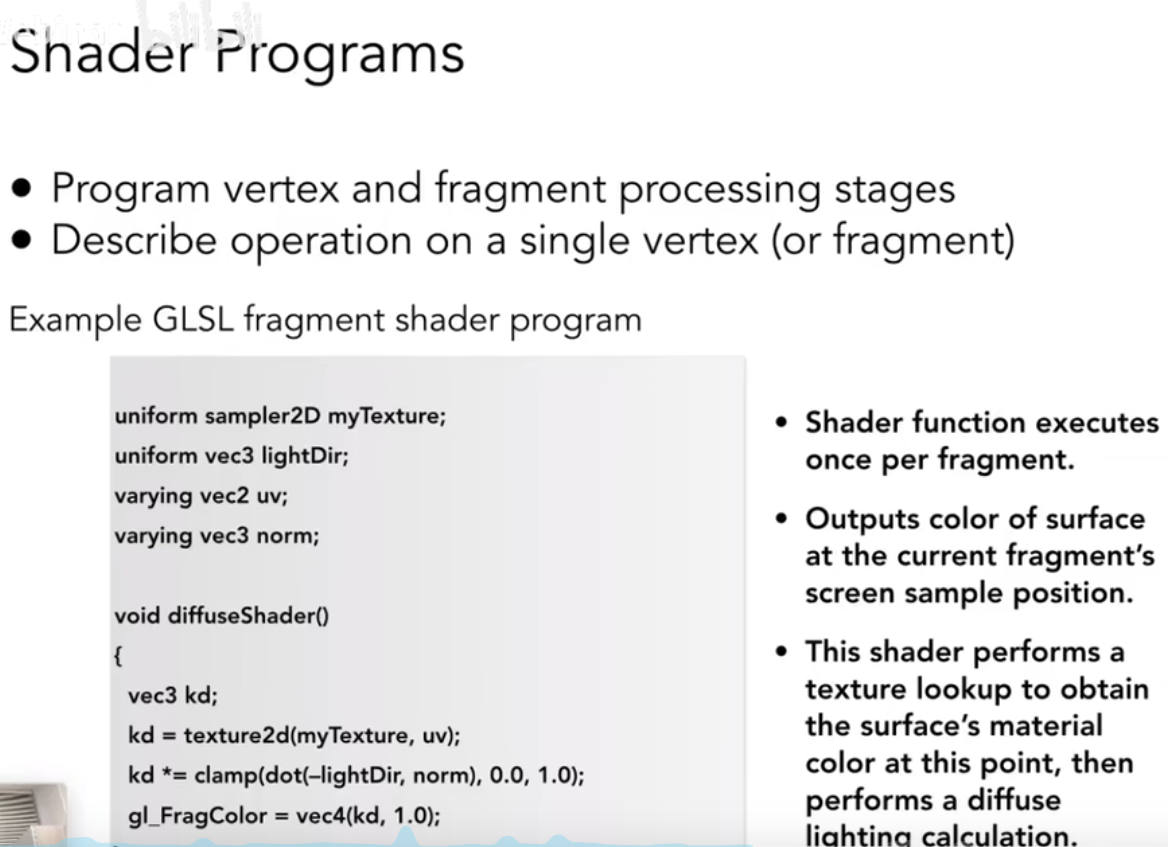
逐像素法线需要重心坐标

实时渲染管线





vertexShader和fragmentShader是可编程的



OpenGL的fragmentShader例子