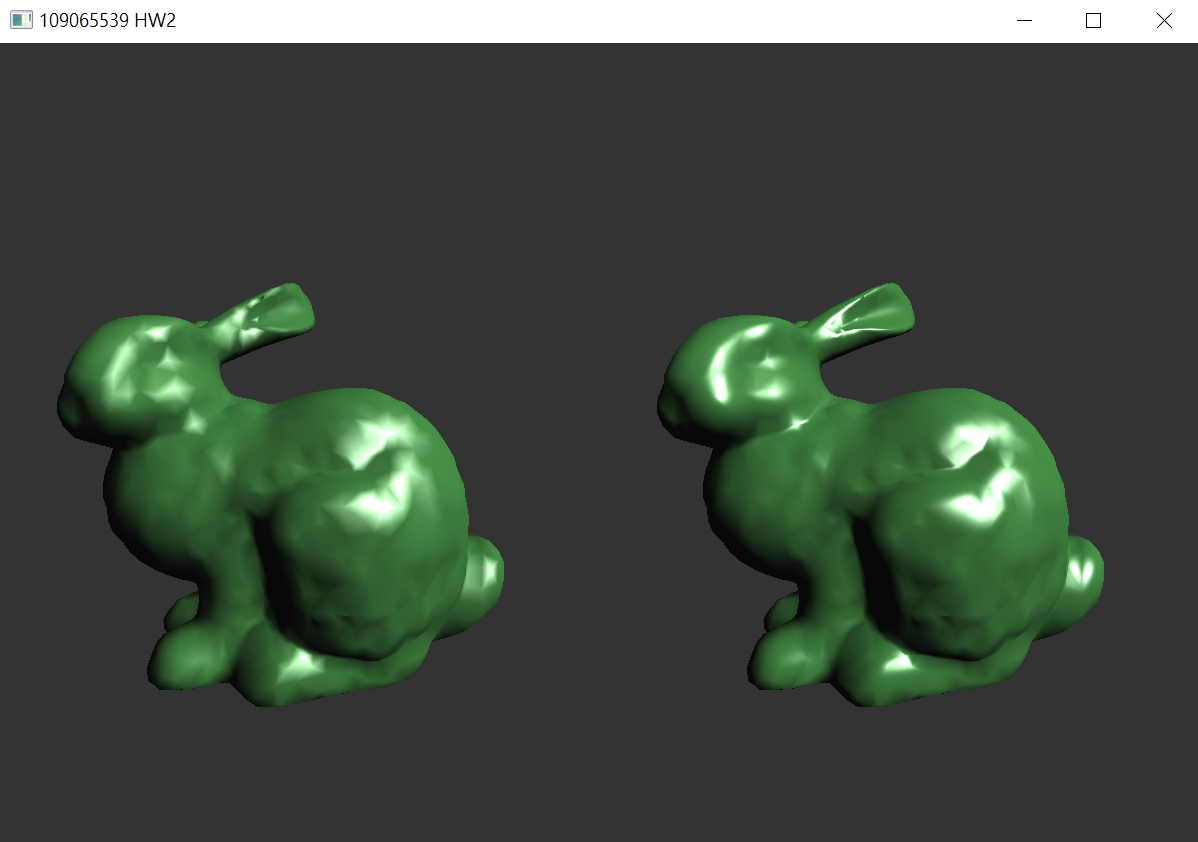
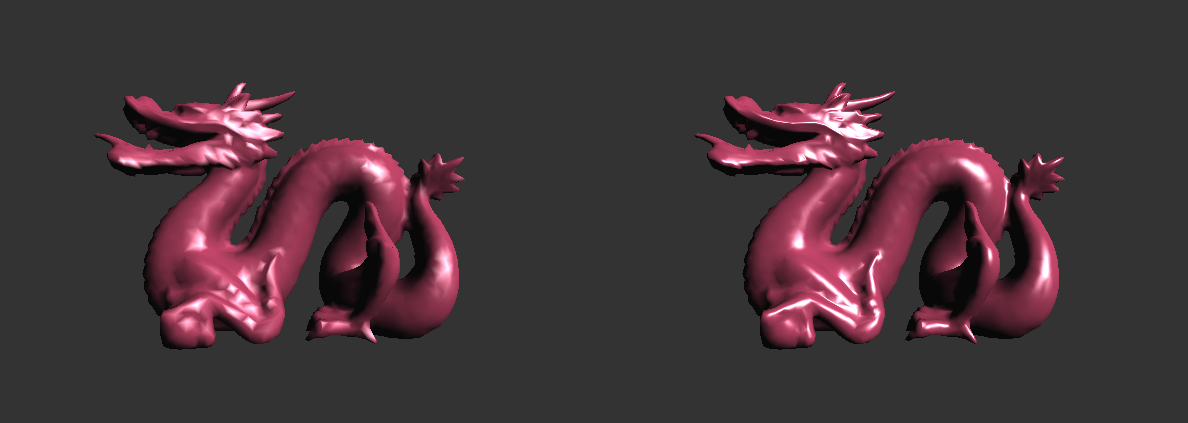
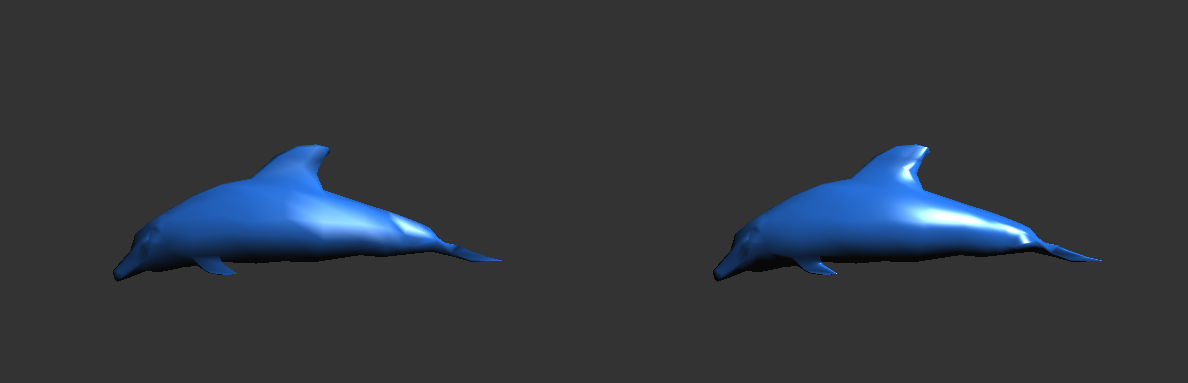
HW2\_Report

109065539 韓承翰

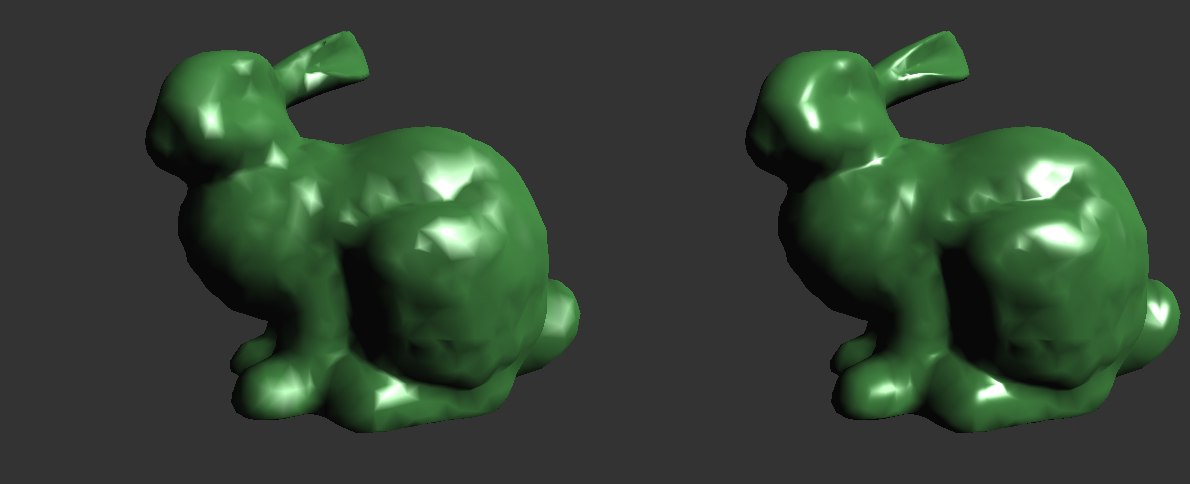
## Demo：

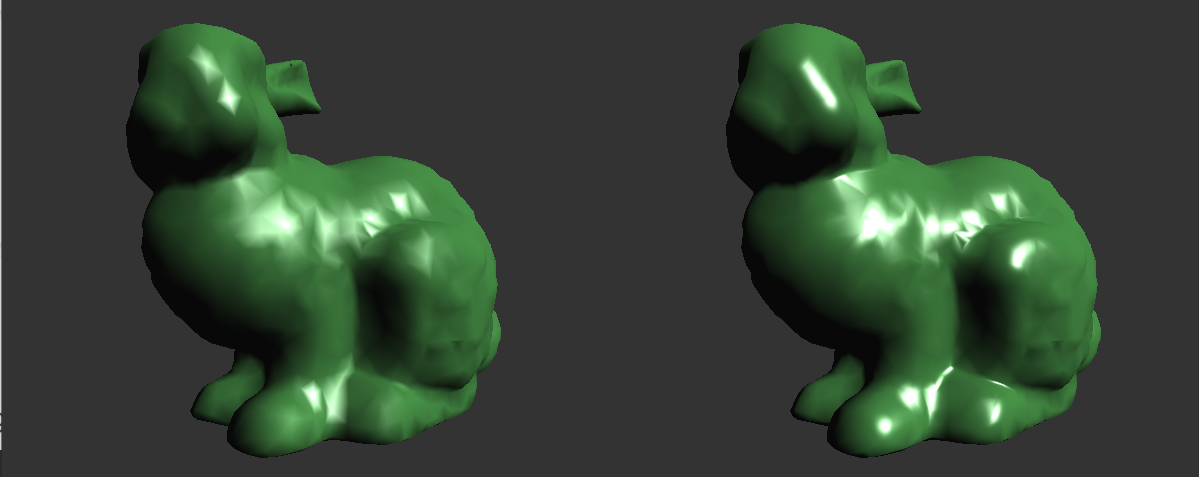


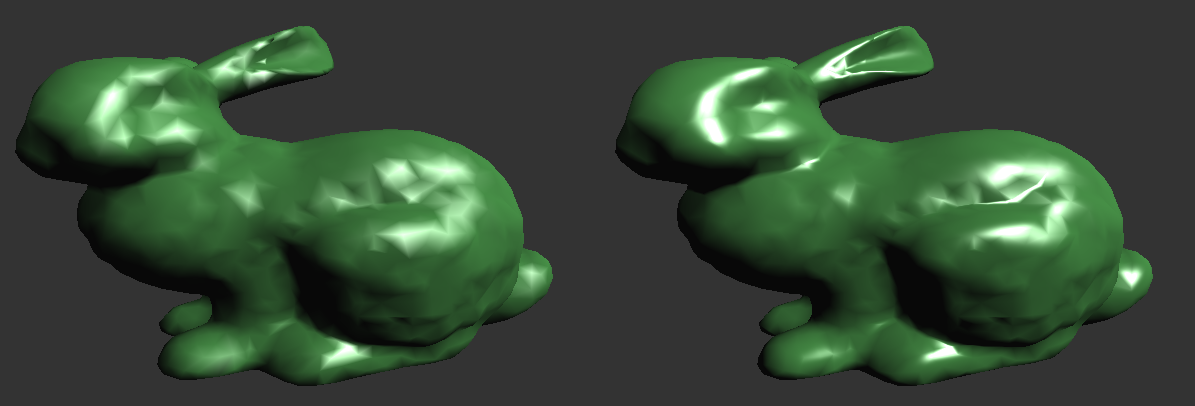




### Translation, Rotation, Scaling models:

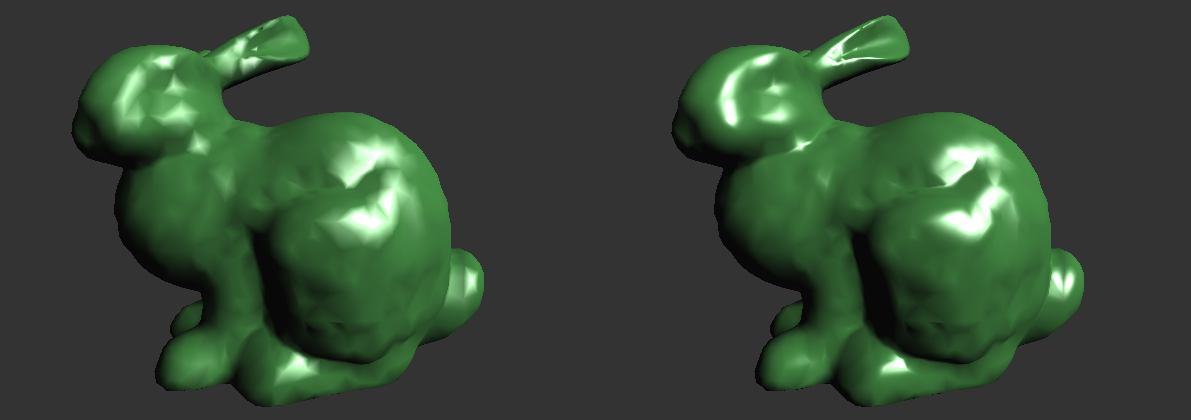


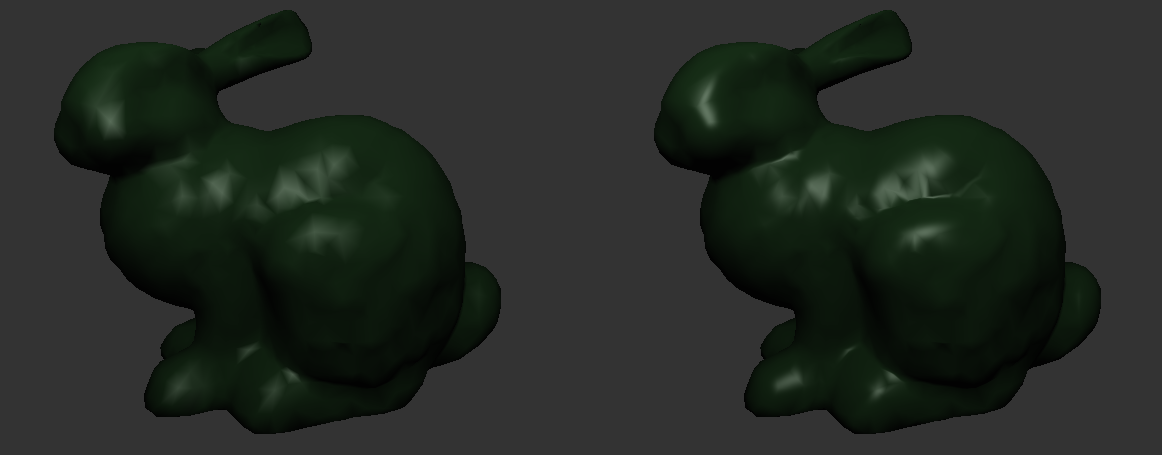


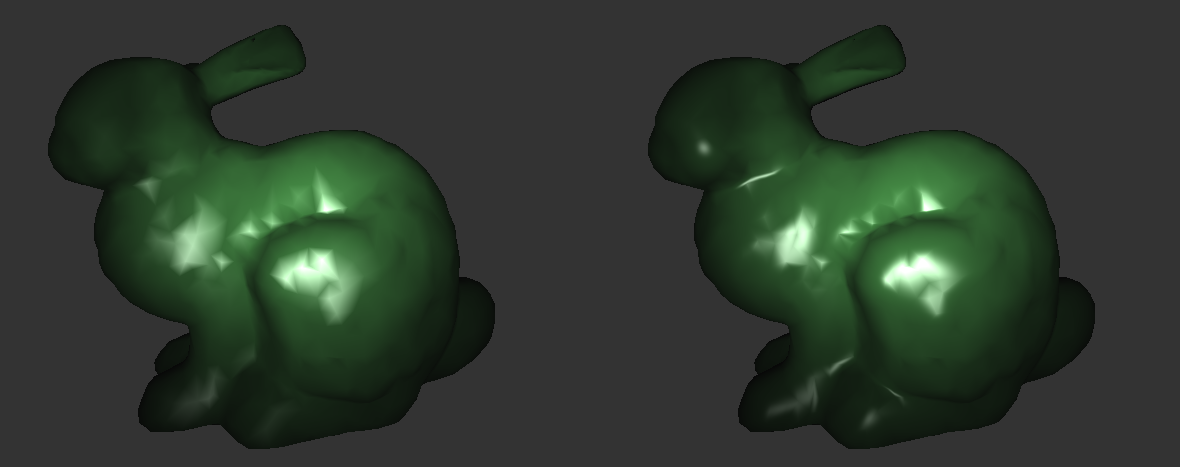


### 

### Directional/Point/Spot light:

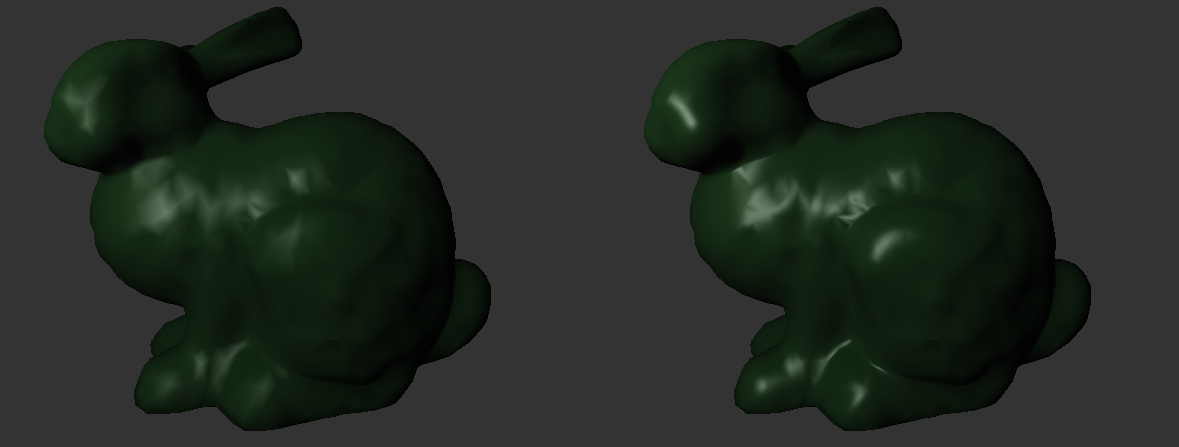


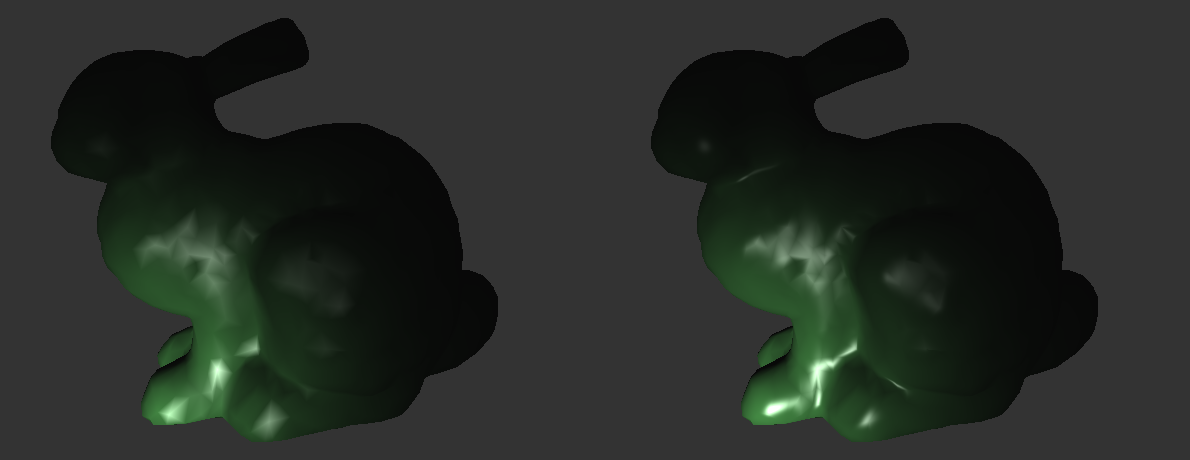




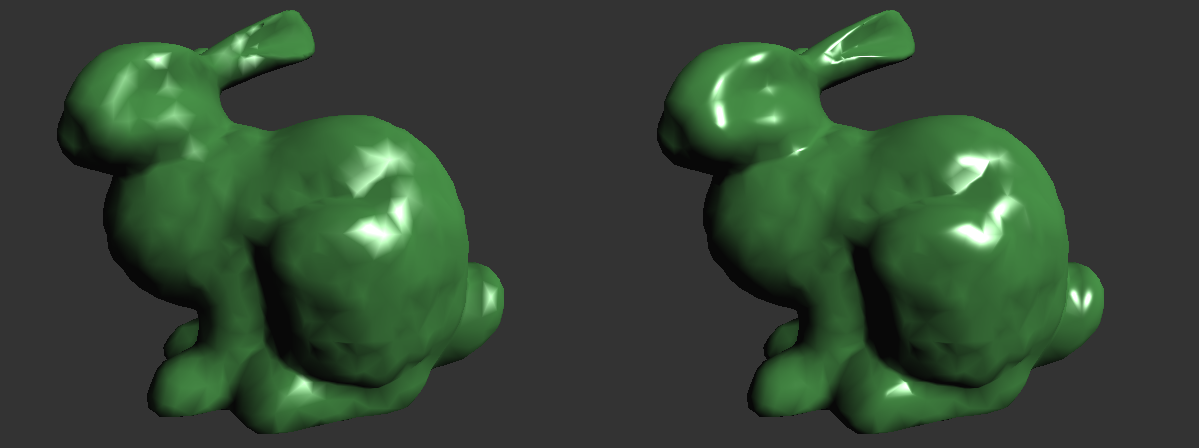
### Light Editing Mode:

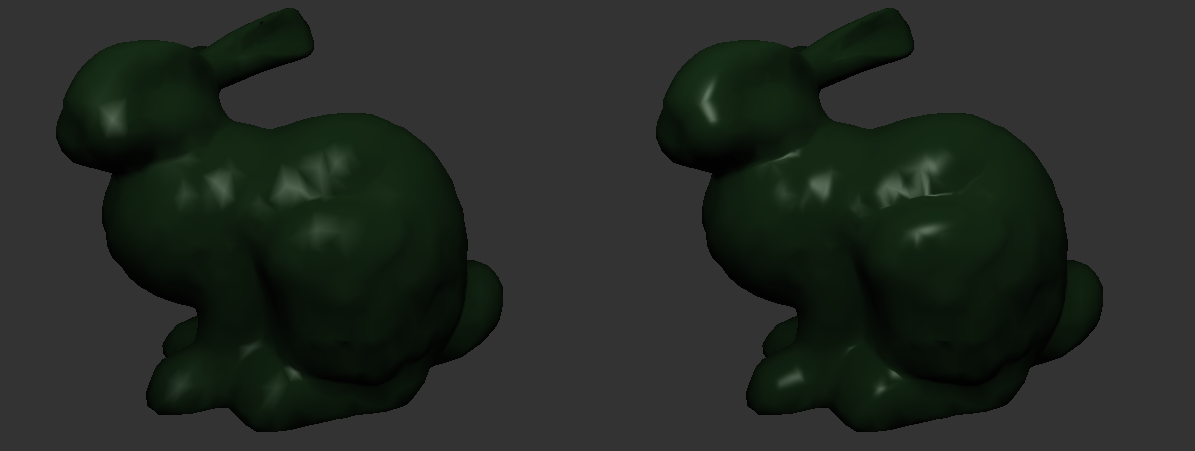


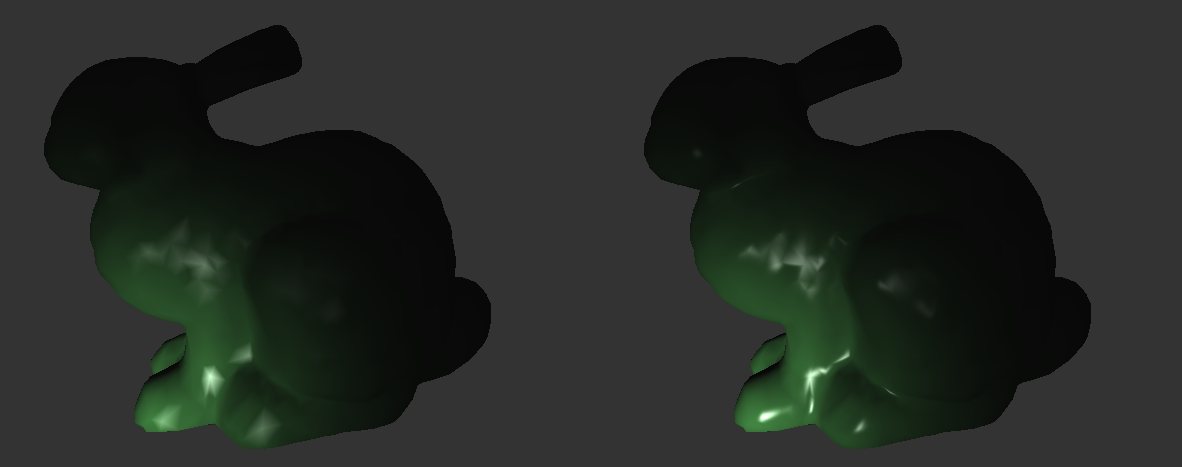




### Shininess Editing Mode:





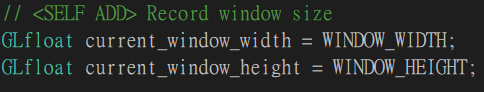


## 

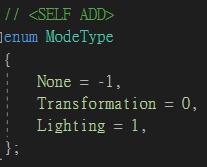
## Code：

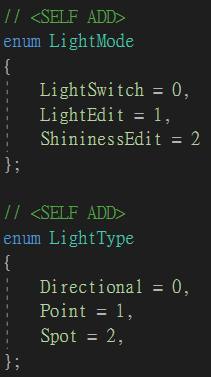
### main.cpp

* 新增變數：
  + 紀錄目前螢幕長寬

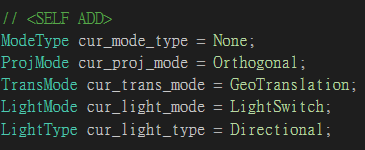


* 模式

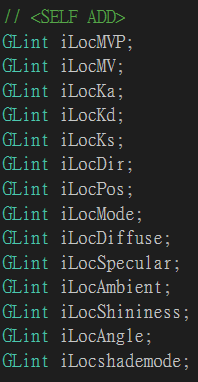




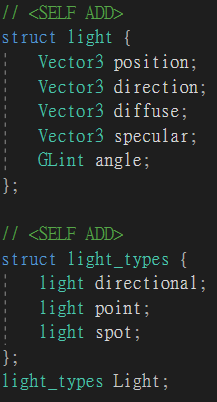
* 初始模式



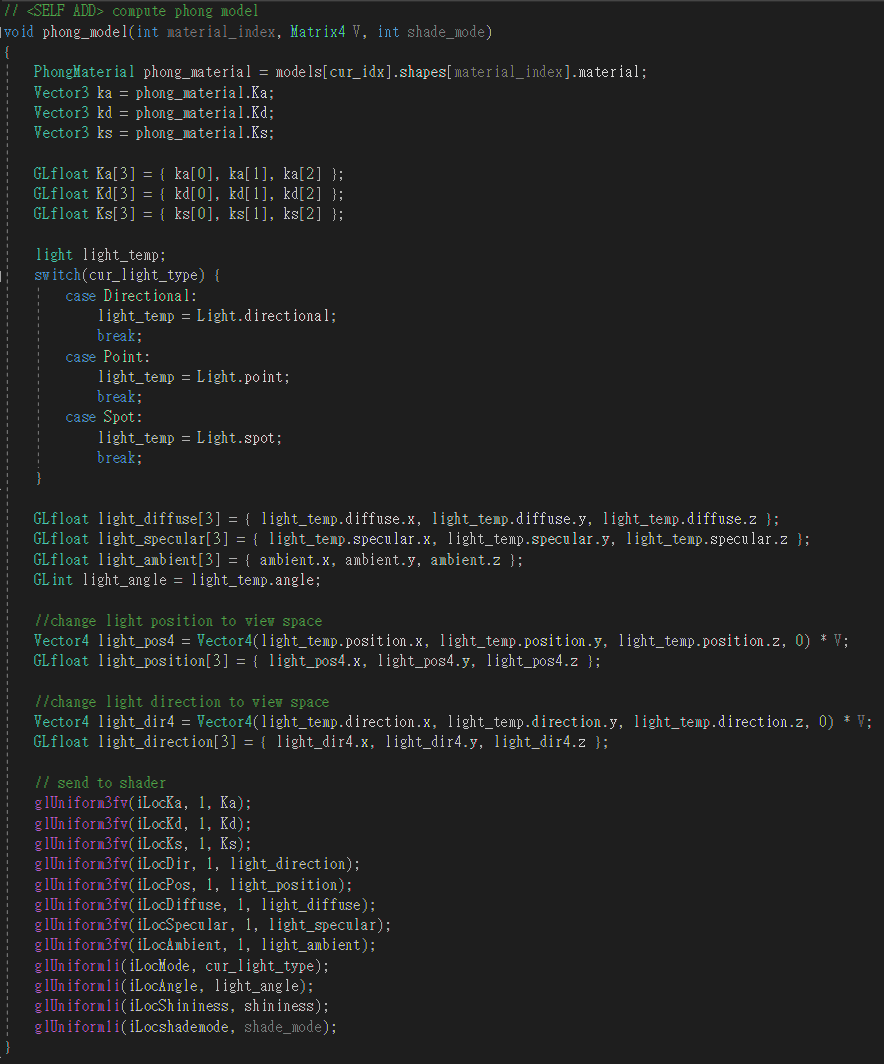
* 新增傳到shader的變數



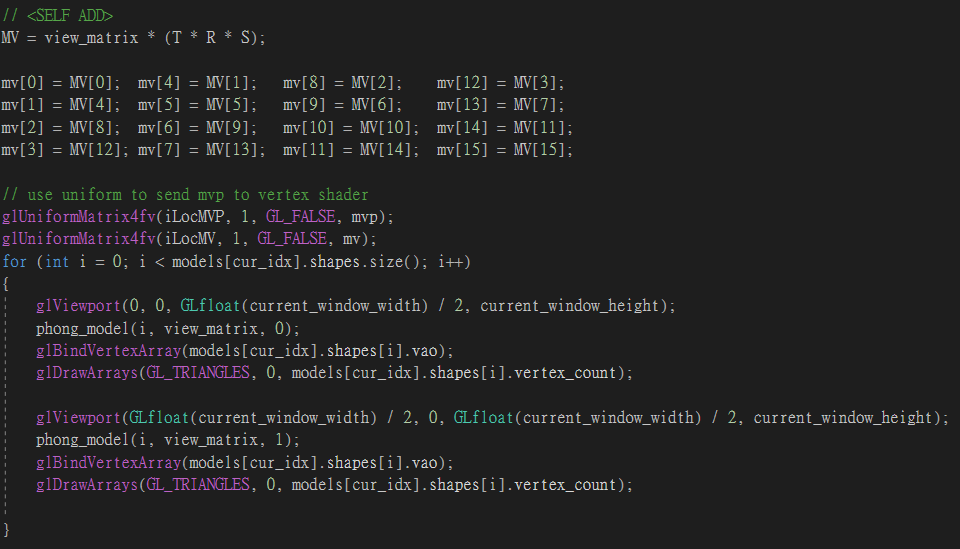
* 光的參數與類型



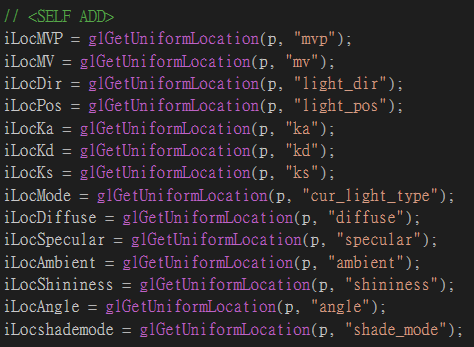
* 修改function:
* phong\_model(): 由renderScene呼叫，將改變的參數傳至shader中



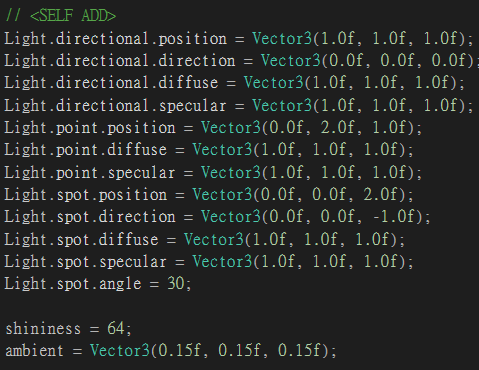
* RenderScene(): 多傳mv至shader中，與同時印出兩個模型



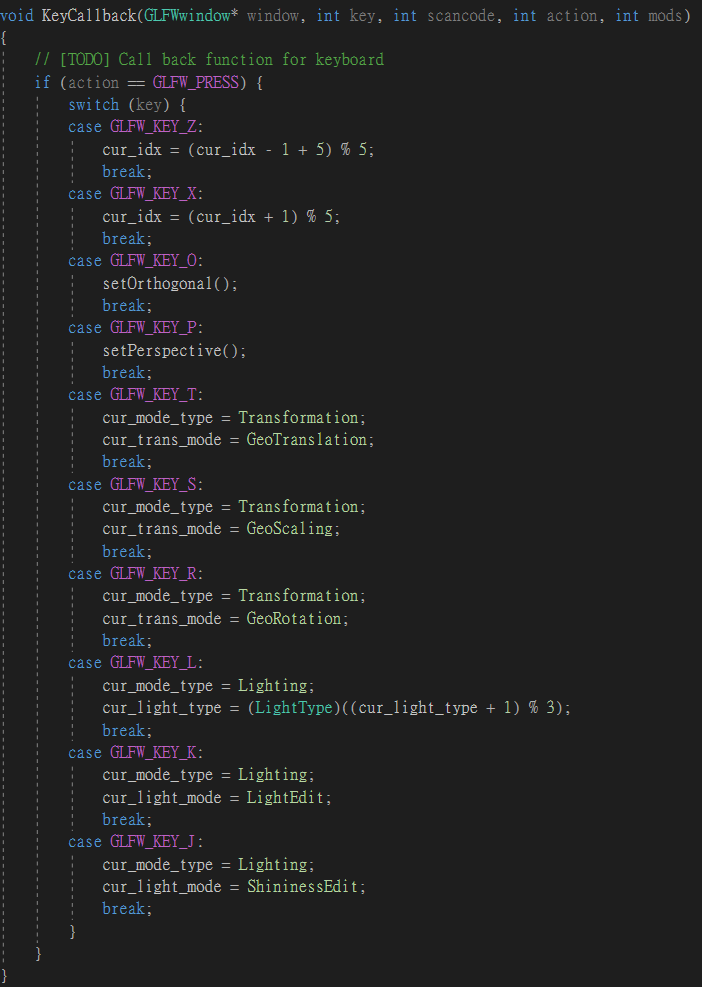
* setShaders(): 新增傳遞至shader的變數



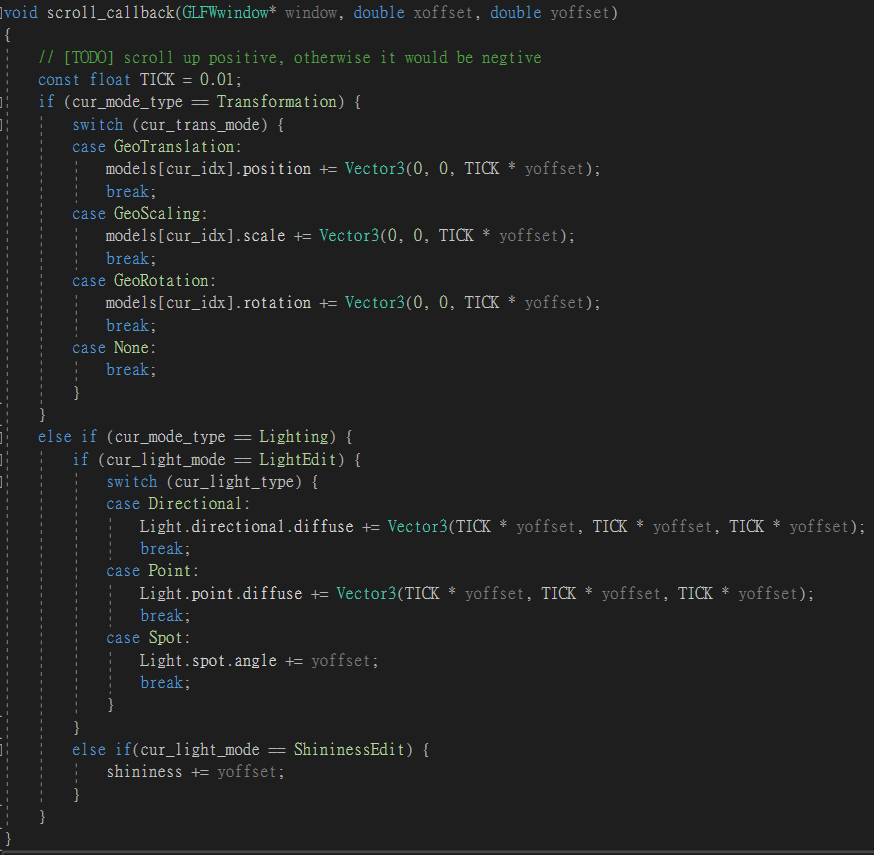
* initParameters(): 新增light初始化參數



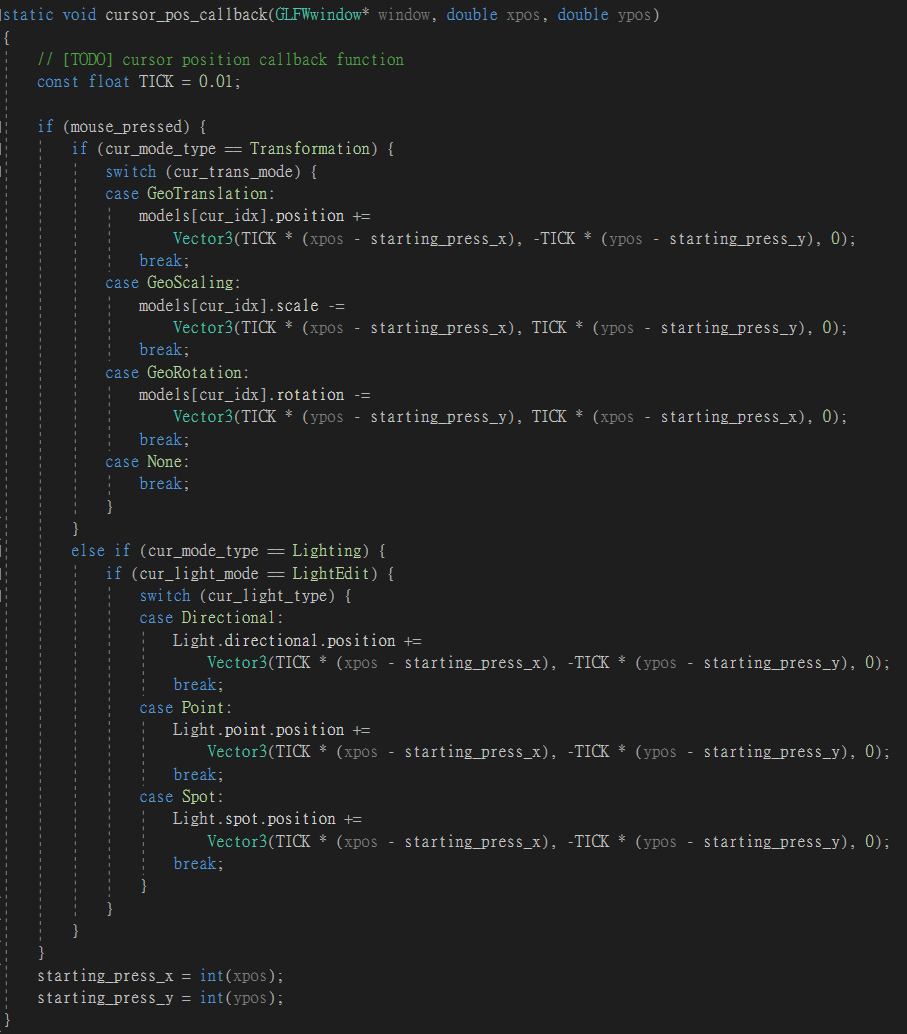
* KeyCallback



* scroll\_callback



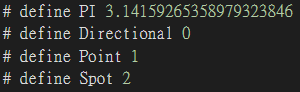
* cursor\_pos\_callback



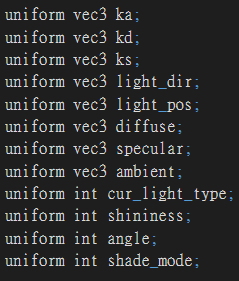
### 

### shader.fs

* 定義常數



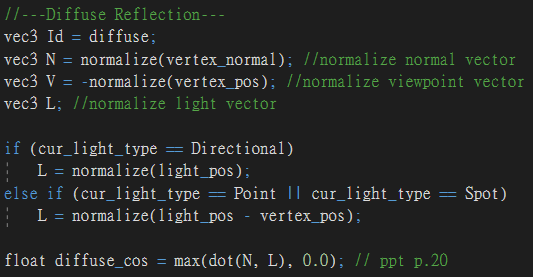
* 新增傳進的參數



* Ambient Light



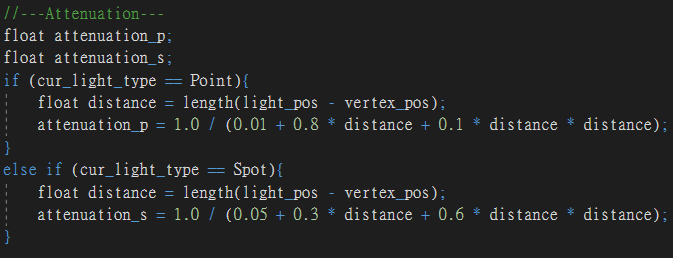
* Diffuse Reflection



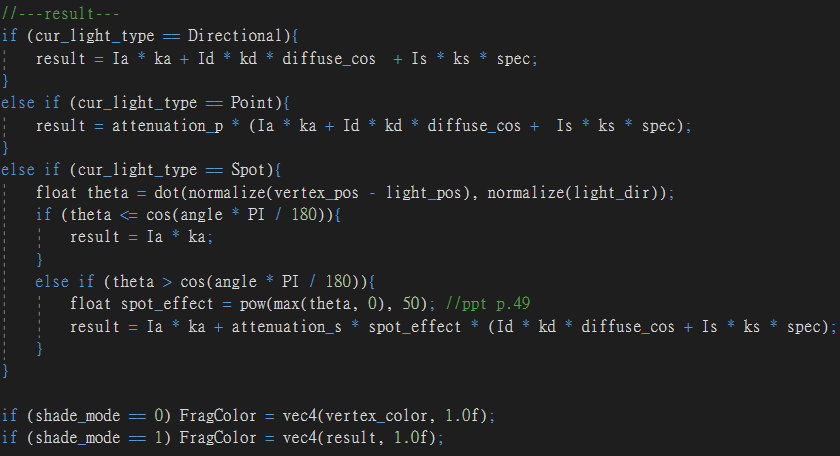
* Specular Highlight(包含halfway vector)



* Attenuation



* 最後再總和起來印出模型



### shader.vs

與shader.fs幾乎相同，僅差在先經過normalize

