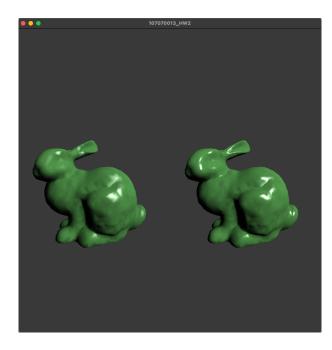
1. Key Z: switch to the previous model. Key X: switch to the next model.





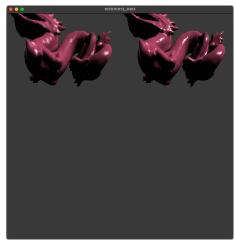
- 2. Key T: switch to GeoTranslate mode.

 - Press mouse left button can move the model in X-axis and Y-axis.
 Scroll up/down mouse middle button can move model in Z-axis.





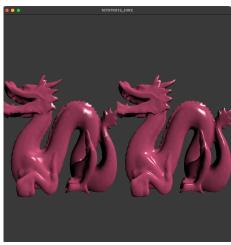


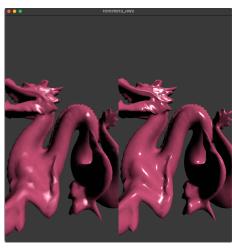


- Key S: switch to GeoScale mode.
 Press mouse left button can scale the model in X-axis and Y-axis.
 Scroll up/down mouse middle button can scale model in Z-axis.



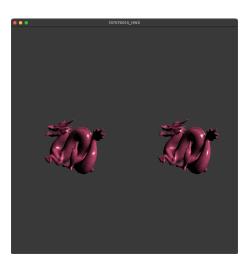


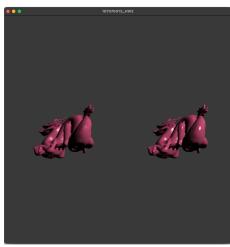




- Key R: switch to GeoRotate mode.
 Press mouse left button can rotate the model in X-axis and Y-axis.
 Scroll up/down mouse middle button can rotate model in Z-axis.

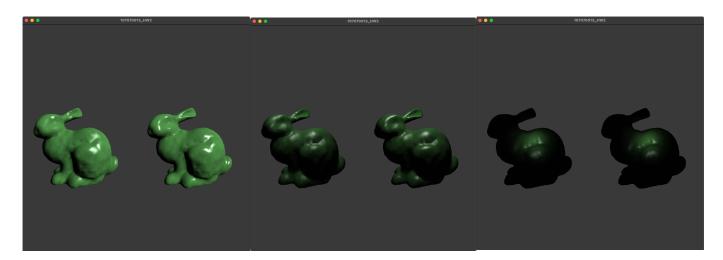




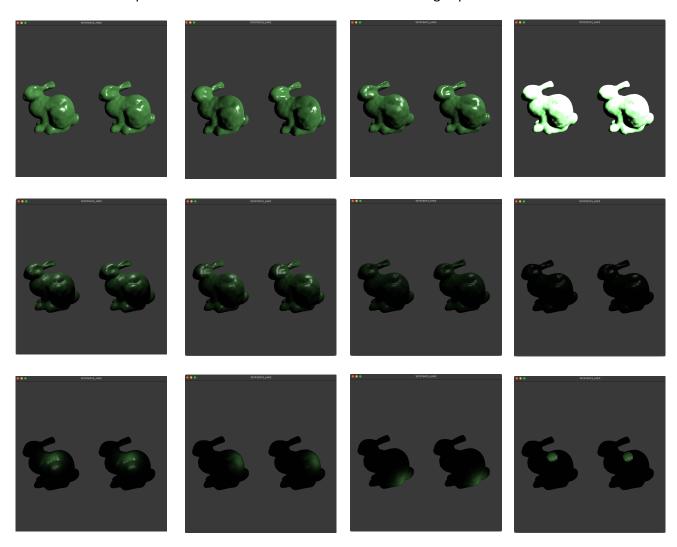




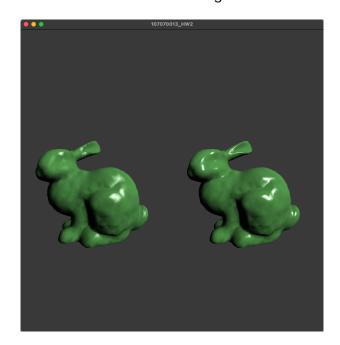
5. Key L: switch between directional/point/spot light.

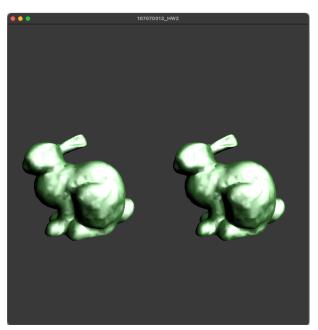


- 6. Key K: switch to light editing mode.
 1. Press mouse left button can move the light position in X-axis and Y-axis.
 2. Scroll up/down mouse middle button can move the light position in Z-axis.

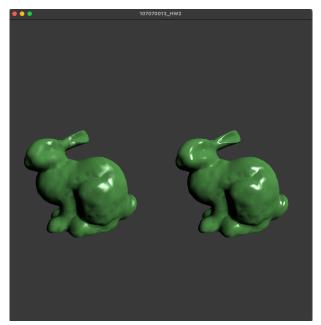


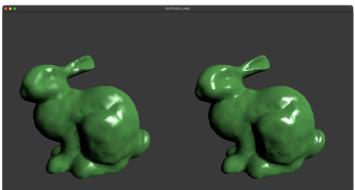
7. switch to shininess editing mode





8. Change Window Size





Others

1. Key ESC: exit the program

```
case GLFW_KEY_ESCAPE:
exit(0);
break;
```

2. Key SPACE: reset to the initial state

```
void reset(){
    proj.left = -1;
    proj.right = 1;
    proj.bot = 1;
    proj.bottom = -1;
    proj.nearClip = 0.001;
    proj.farClip = 100.0;
    proj.farClip = 100.0;
    proj.aspect = (float)window_width / 2 / (float)window_width;

main_camera.position = Vector3(0.0f, 0.0f, 2.0f);
    main_camera.center = Vector3(0.0f, 0.0f, 0.0f);

main_camera.up_vector = Vector3(0.0f, 1.0f, 0.0f);

cur_trans_mode = GeoTranslation;

models[cur_idx].position = Vector3(0, 0, 0);
    models[cur_idx].scale = Vector3(1, 1, 1);
    models[cur_idx].rotation = Vector3(0, 0, 0);

I_d = Vector3(1.0f, 1.0f, 1.0f);

I_p = Vector3(1.0f, 1.0f, 1.0f);

lightPos_d = Vector3(1.0f, 1.0f, 1.0f);
    lightPos_s = Vector3(0.0f, 2.0f, 1.0f);
    lightPos_s = Vector3(0.0f, 0.0f, 2.0f);

setViewingMatrix();
    setPerspective();
}
```