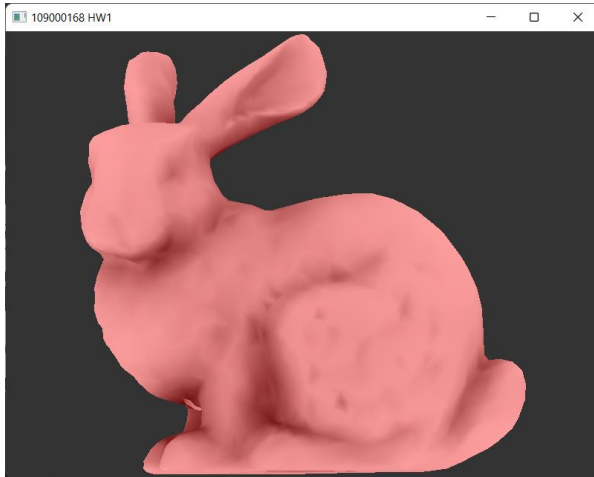


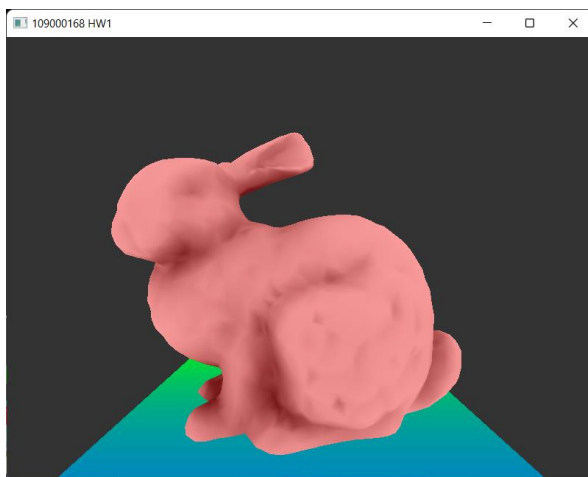
Computer Graphics

Assignment 1 Transformation

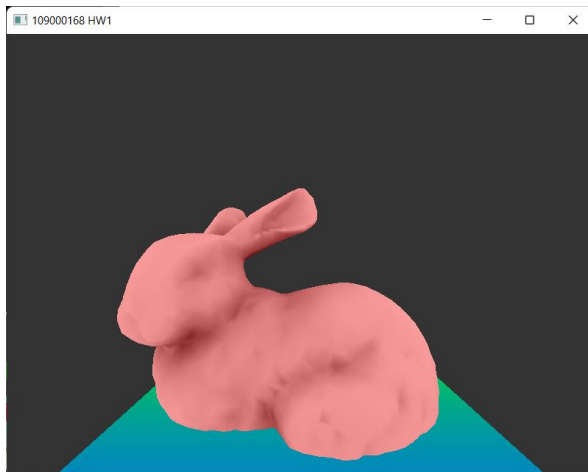
- Render Orthogonal Projection



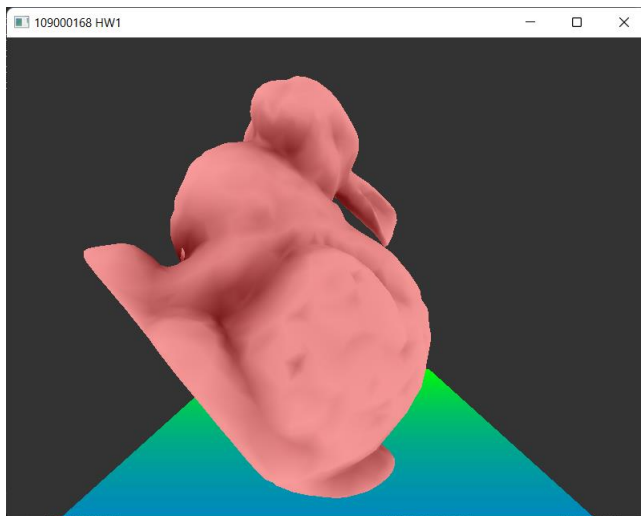
- Render NDC Perspective Projection



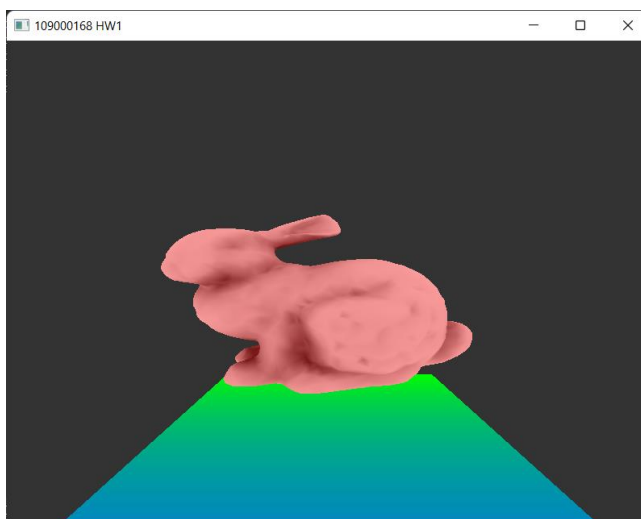
- Translation Mode



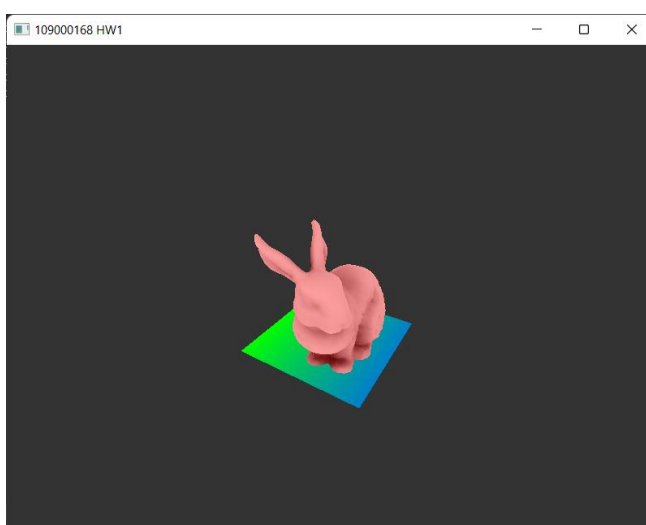
- Rotation Mode



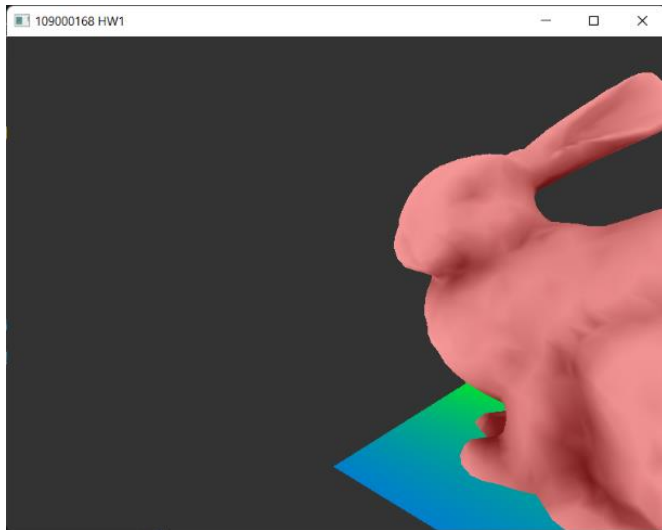
- Scale Mode



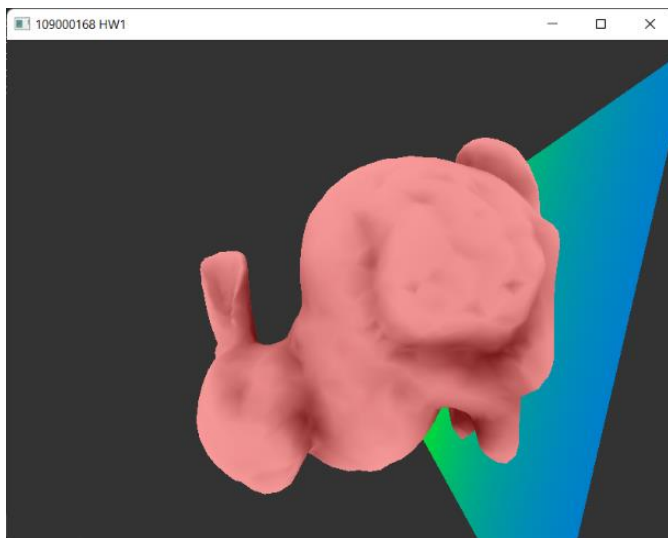
- Translate Eye Position Mode



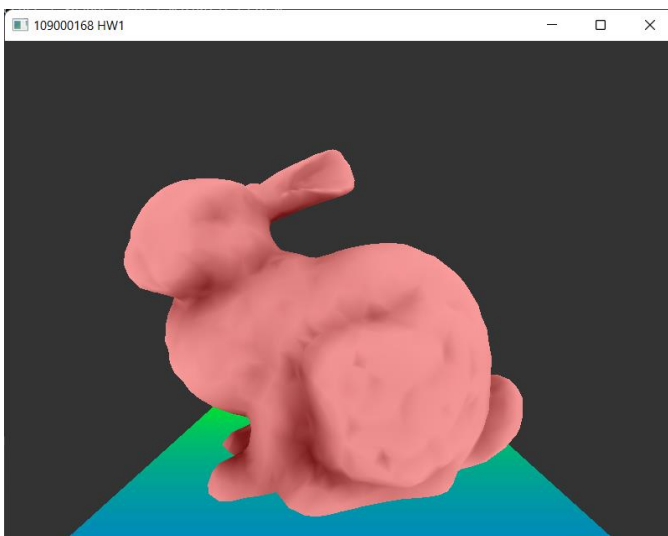
- Translate Viewing Center Position Mode



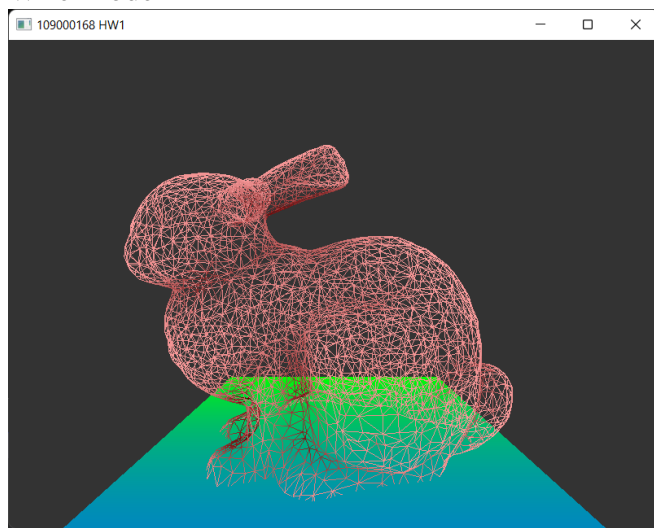
- Translate Camera Up Vector Position Mode



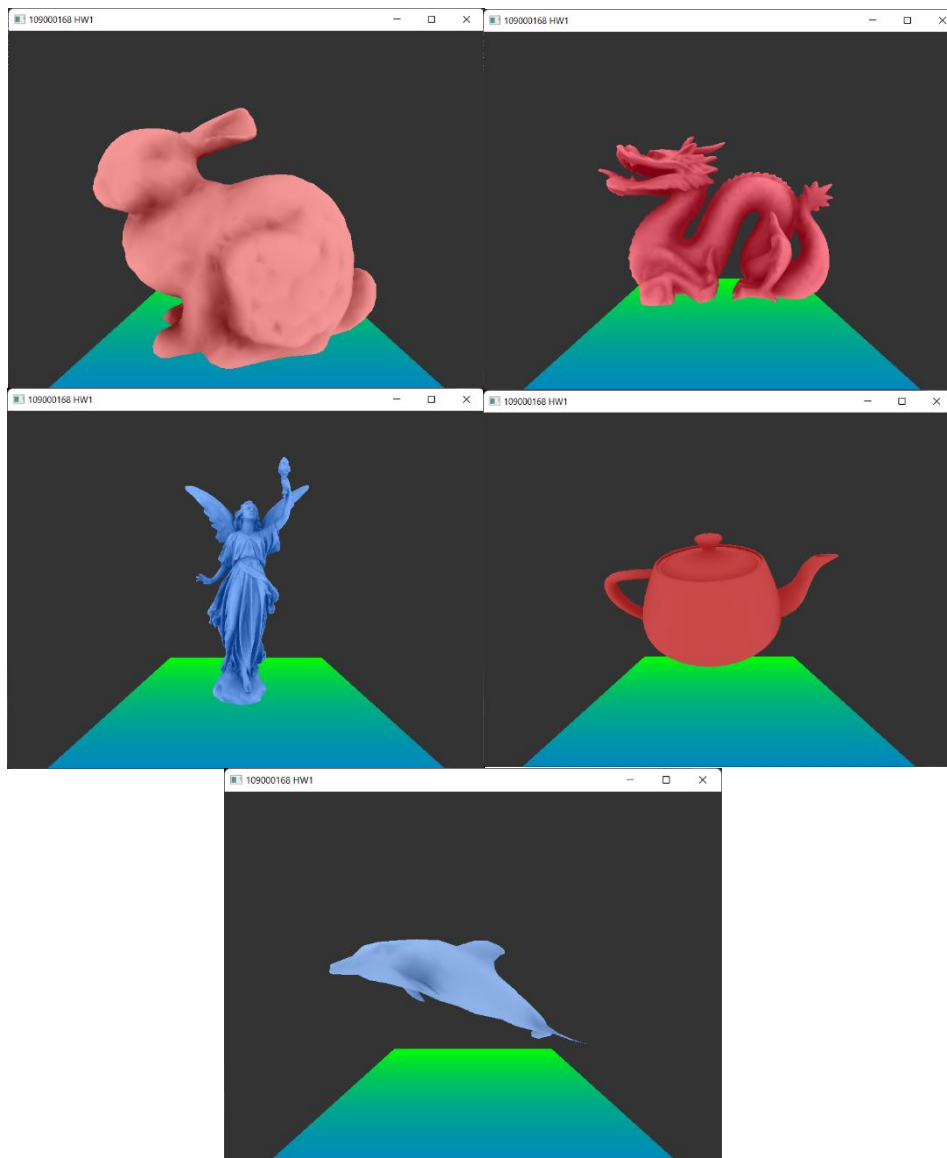
- Solid Mode



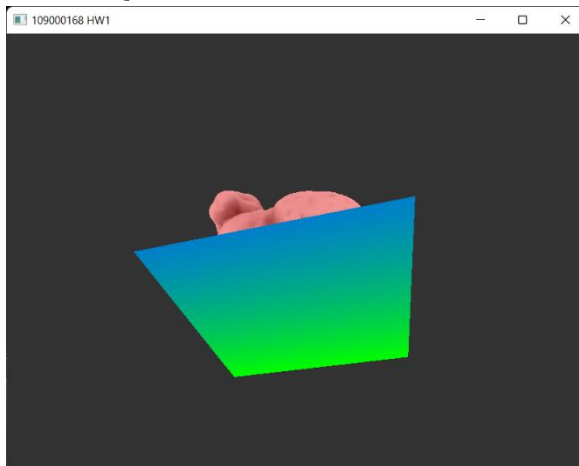
- Wire Mode



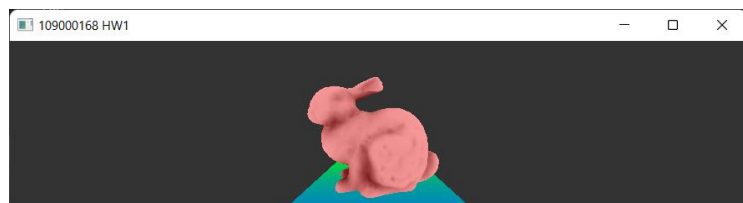
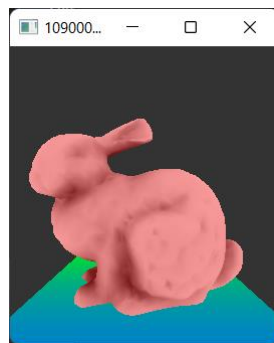
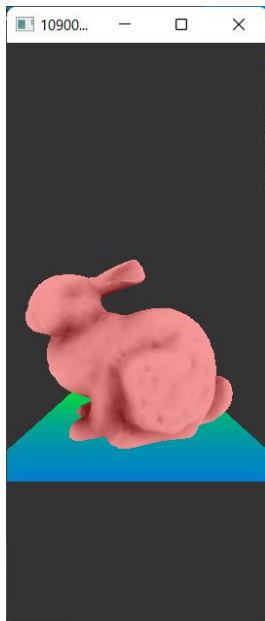
- Switch Model



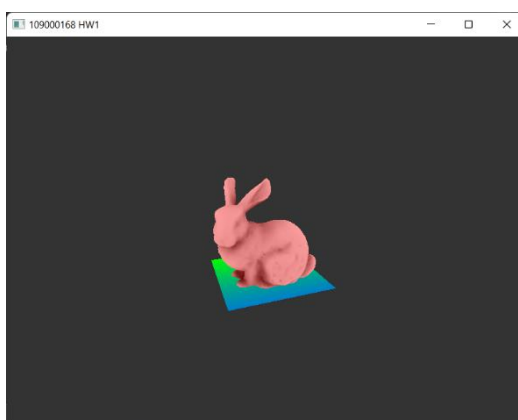
- Render Quat



- Window Resize



- Print Information



```
Matrix Value:
Viewing Matrix:
(0.941922, 0, 0.335831, 1.19209e-07)
(0.186604, 0.948281, -0.298996, 0)
(-0.318462, 0.317432, 0.893207, -4.85143)
(0, 0, 0, 1)

Projection Matrix:
(0.953176, 0, 0, 0)
(0, 1.2709, 0, 0)
(0, 0, -1.00002, -0.00200002)
(0, 0, -1, 0)

Translation Matrix:
(1, 0, 0, 0)
(0, 1, 0, 0)
(0, 0, 1, 0)
(0, 0, 0, 1)

Rotation Matrix:
(0.981048, 0, -0.193767, 0)
(-0.0193444, 0.995004, -0.0979413, 0)
(0.192799, 0.0998334, 0.976147, 0)
(0, 0, 0, 1)

Scaling Matrix:
(1, 0, 0, 0)
(0, 1, 0, 0)
(0, 0, 1, 0)
(0, 0, 0, 1)
```

- Program Control

The controlling is based on the description in **AS01_Detail**.

- Keyboard

- W : switch between solid and wireframe mode
 - Z/X : switch the model
 - O : switch to orthogonal projection
 - P : switch to NDC perspective projection
 - T : switch to translation mode
 - S : switch to scale mode
 - R : switch to rotation mode
 - E : switch to translate eye position mode
 - C : switch to translate viewing center position mode
 - U : switch to translate camera up vector position mode
 - I : print information

- Mouse (for all mode **except rotation**)

- drag horizontally : change x-axis
 - drag vertically : change y-axis
 - scrolling the wheel : change z-axis

- Mouse (for **rotation**)

- drag horizontally : change y-axis
 - drag vertically : change x-axis
 - scrolling the wheel : change z-axis

- Special things

None