**6/3/2018**

**-ISSUE**: The Shader Resource View dimension declared in the shader code (TEXTURE2D) does not match the view type bound to slot 0 of the Pixel Shader unit (TEXTURECUBE).

REASON: Draw skybox function set shader resources to its own smrv but didn't set it back, need to set it back to out default.

SOLUTION: 1. Set shader resources to the default at the end of draw skybox function.

2. Move draw sky box to the end of draw scene function.

Currently don't know how to unbind shader resources, so set it to objects\_pool->CubesTexture (created from ''grass.jpg'').

**-ISSUE:** How to print log?

SOLUTION: Use OutputDebugStringW(L"aaa") function.

**-ISSUE:** Height map is black if I don't draw ground first.

SOLUTION: Fill the constant buffer per object PSSetConstantBuffer when draw height map.

Reason: Both VS stage and PS stage use the variables from constant buffer.

**6/5/2018**

**-ISSUE**: The collision detection doesn't work, the camera just go through the height map, if I remove the gravity, the camera slide on the back side of the height map.

-REASON: The author changed the order for initialization of the indices of the height map, with my previous order the camera always collide with the back side of the height map, so the collision can't be detected. I need to reverse my order as well.

-SOLUTION: Copy the initialization of indices from the author's code into my code, also change the draw state from CCW to CW using RSSetState(op->CWcullMode).

**-ISSUE**: Based on the previous issue, the normal is upside down as well, so the heightmap is all black.

-SOLUTION: Change cross product of e1 e2 to cross product of e2 e1 during the computation of normal.