

Hexagon实现文档

1.首先新建项目按"Rendering a Triangle项目"配置好环境

注意事项：着色器的配置和WindowSDK的选择

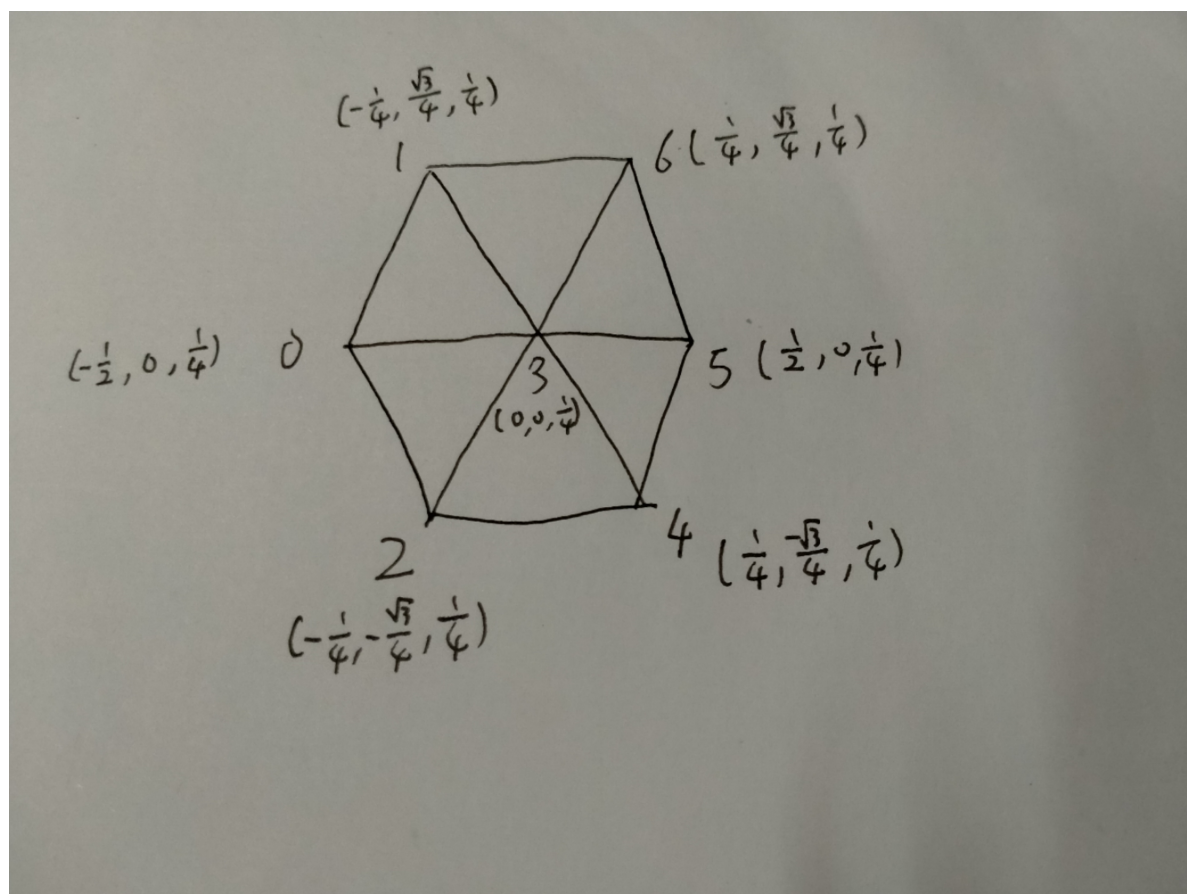
若没有对着色器进行配置会出现以下报错：

代码	说明	项目	文件	行	禁止显示状态
X3501	'main': entrypoint not found	Hexagon	FXC	1	

windowSDK不能选择默认的10.0，否则会出现以下报错：

错误列表					
整个解决方案					
代码	说明	项目	文件	行	禁止显示状态
C2440	"=": 无法从"const wchar_t [16]"转换为"LPCSTR"	Hexagon	d3dApp.cpp	335	
C2664	"int MessageBoxA(HWND,LPCSTR,LPCSTR,UINT)": 无法将参数 2 从"const wchar_t [22]"转换为"LPCSTR"	Hexagon	d3dApp.cpp	339	
C2664	"HWND CreateWindowExA (DWORD,LPCSTR,LPCSTR,DWORD,int,int,int,HWND,HMENU,HINSTANCE,LPCVOID)": 无法将参数 2 从"const wchar_t [22]"转换为"LPCSTR"	Hexagon	d3dApp.cpp	349	

2.按两种图元类型制订所需六边形的各点坐标以及排序方式(防止出现逆时针情况)



D3D11_PRIMITIVE_TOPOLOGY_TRIANGLELIST的实现方式为：

301 316 365 354 342 320

D3D11_PRIMITIVE_TOPOLOGY_TRIANGLESTRIP的实现方式:

0 1 2 3 4 5 6 3 1

3.在项目中写下已制定好的顶点坐标，并修改图元类型以及绘画的顶点数

注意：在GameApp.cpp上实现

1.D3D11_PRIMITIVE_TOPOLOGY_TRIANGLELIST

在InitResource中设定顶点坐标:

```
1 VertexPosColor vertices[] =
2     {
3         { XMFLOAT3(0.0f, 0.0f, 0.25f), XMFLOAT4(0.0f, 0.0f, 1.0f, 1.0f)},
4         { XMFLOAT3(-0.5f, 0.0f, 0.25f), XMFLOAT4(0.0f, 1.0f, 0.0f, 1.0f)},
5         { XMFLOAT3(-0.25f, sqrt(3) * 0.25f, 0.25f), XMFLOAT4(1.0f, 0.0f,
6         0.0f, 1.0f)},
7         { XMFLOAT3(0.0f, 0.0f, 0.25f), XMFLOAT4(0.0f, 0.0f, 1.0f, 1.0f)},
8         { XMFLOAT3(-0.25f, sqrt(3) * 0.25f, 0.25f), XMFLOAT4(1.0f, 0.0f,
9         0.0f, 1.0f)},
10        { XMFLOAT3(0.25f, sqrt(3) * 0.25f, 0.25f), XMFLOAT4(0.0f, 1.0f,
11        0.0f, 1.0f) },
12        { XMFLOAT3(0.0f, 0.0f, 0.25f), XMFLOAT4(0.0f, 0.0f, 1.0f, 1.0f)},
13        { XMFLOAT3(0.25f, sqrt(3) * 0.25f, 0.25f), XMFLOAT4(0.0f, 1.0f,
14        0.0f, 1.0f) },
15        { XMFLOAT3(0.5f, 0.0f, 0.25f), XMFLOAT4(1.0f,0.0f, 0.0f, 1.0f) },
16        { XMFLOAT3(0.0f, 0.0f, 0.25f), XMFLOAT4(0.0f, 0.0f, 1.0f, 1.0f)},
17        { XMFLOAT3(0.5f, 0.0f, 0.25f), XMFLOAT4(1.0f,0.0f, 0.0f, 1.0f) },
18        { XMFLOAT3(0.25f, -sqrt(3) * 0.25f, 0.25f), XMFLOAT4(0.0f, 1.0f,
19        0.0f, 1.0f) },
20        { XMFLOAT3(0.0f, 0.0f, 0.25f), XMFLOAT4(0.0f, 0.0f, 1.0f, 1.0f)},
21        { XMFLOAT3(0.25f, -sqrt(3) * 0.25f, 0.25f), XMFLOAT4(0.0f, 1.0f,
22        0.0f, 1.0f) },
23        { XMFLOAT3(-0.25f, -sqrt(3) * 0.25f, 0.25f), XMFLOAT4(1.0f, 0.0f,
24        0.0f, 1.0f) },
25        { XMFLOAT3(0.0f, 0.0f, 0.25f), XMFLOAT4(0.0f, 0.0f, 1.0f, 1.0f)},
26        { XMFLOAT3(-0.25f, -sqrt(3) * 0.25f, 0.25f), XMFLOAT4(1.0f, 0.0f,
27        0.0f, 1.0f) },
28        { XMFLOAT3(-0.5f, 0.0f, 0.25f), XMFLOAT4(0.0f, 1.0f, 0.0f, 1.0f)}
29    };
```

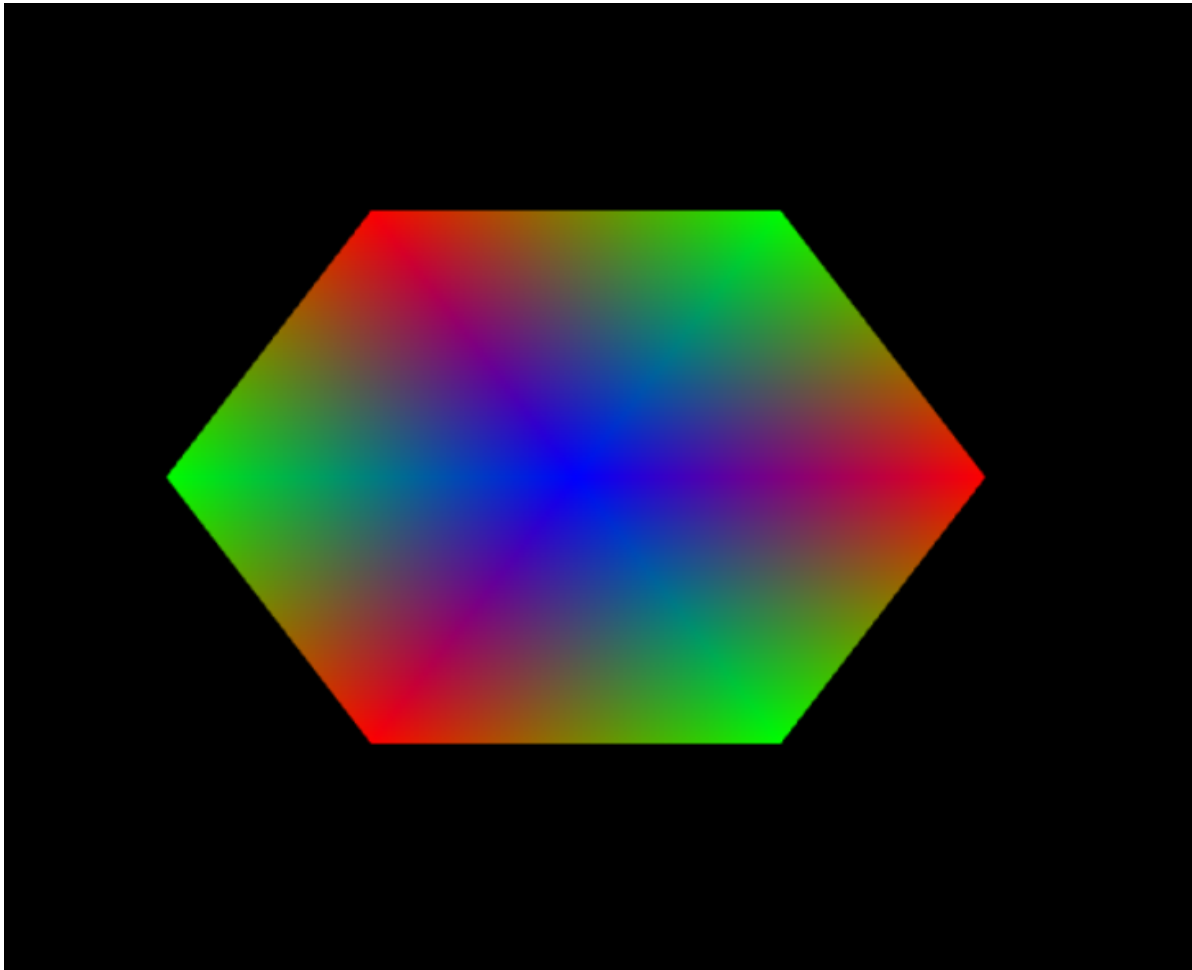
在DrawScene中: 将绘制顶点数改为18

```
1 m_pd3dImmediateContext->Draw(18, 0);
```

在InitResource中: 设置图元类型为D3D11_PRIMITIVE_TOPOLOGY_TRIANGLELIST

```
1 m_pd3dImmediateContext->IASetPrimitiveTopology(D3D11_PRIMITIVE_TOPOLOGY_TRIANGLELIST);
```

实现六边形结果为：



2.D3D11_PRIMITIVE_TOPOLOGY_TRIANGLESTRIP

在InitResource中设定顶点坐标：

```
1 VertexPosColor vertices[] =
2     {
3         { XMFLOAT3(-0.5f, 0.0f, 0.25f), XMFLOAT4(0.0f, 1.0f, 0.0f, 1.0f)},
4         { XMFLOAT3(-0.25f, sqrt(3)*0.25f, 0.25f), XMFLOAT4(1.0f, 0.0f, 0.0f,
5 1.0f)},
6         { XMFLOAT3(-0.25f, -sqrt(3) * 0.25f, 0.25f), XMFLOAT4(1.0f, 0.0f,
7 0.0f, 1.0f) },
8         { XMFLOAT3(0.0f, 0.0f, 0.25f), XMFLOAT4(0.0f, 0.0f, 1.0f, 1.0f)},
9         { XMFLOAT3(0.25f, -sqrt(3) * 0.25f, 0.25f), XMFLOAT4(0.0f, 1.0f,
10 0.0f, 1.0f) },
11         { XMFLOAT3(0.5f, 0.0f, 0.25f), XMFLOAT4(1.0f,0.0f, 0.0f, 1.0f) },
12         { XMFLOAT3(0.25f, sqrt(3) * 0.25f, 0.25f), XMFLOAT4(0.0f, 1.0f,
13 0.0f, 1.0f) },
14         { XMFLOAT3(0.0f, 0.0f, 0.25f), XMFLOAT4(0.0f, 0.0f, 1.0f, 1.0f)},
15         { XMFLOAT3(-0.25f, sqrt(3) * 0.25f, 0.25f), XMFLOAT4(1.0f, 0.0f,
16 0.0f, 1.0f)}
17     };
18
```

在DrawScene中：将绘制顶点数改为9

```
1 | m_pd3dImmediateContext->Draw(9, 0);
```

在InitResource中：设置图元类型为D3D11_PRIMITIVE_TOPOLOGY_TRIANGLESTRIP

```
1 | m_pd3dImmediateContext->IASetPrimitiveTopology(D3D11_PRIMITIVE_TOPOLOGY_TRIANGLESTRIP);
```

实现六边形结果为：

