float4: 第四个参数用作变形计算，或者是变形倍数，在与矩阵相乘时体现

floatnxm: n个m长度的向量 float4x4 m; m[1]第二列 m[2][3]第三列第四个元素

commandBuffer : stores the translated commands from a command encoder

commandEncoder: translates the API commands to GPU hardware commands, specifies states for the vertex and fragment stages of the graphics pipeline, also interleaves resources, state changes and draw calls

the vertex shader which is responsible for the location of our point, and the fragment shader which is responsible for the color of our point

A render pass descriptor tells Metal what actions to take while an image is being rendered

setVertexBuffer与[[buffer(0)]]对应

memcpy:组合变形矩阵和变形buffer

MTKViewDelegate中的drawin会自动间隔执行

kernel : 坐标系中的y是上-1下1， float2 uv = float2(gid) / float2(width, height)✖2-1;是为了将位置转化-1到1坐标系

clamp: moves the point to the nearest available value, given a min and max value. The input takes the value of min if less than it, the value of max if greater than it, and keeps its value if in between

mix：performs a linear interpolation between x and y using a to weight between them

fmod: returns the remainder fractional part of a float: 例如fmod(uv.x, 0.1)表示uv.x除0.1后的小数部分，与整除%的含义类似

dot：returns the scalar product of two vectors

关于light：<https://www.evl.uic.edu/aej/488/lecture12.html> chapter13

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只渲染轮廓：（2D）renderEncoder.setTriangleFillMode(.lines) （3D）commandEncoder.setCullMode(.back)

texture1d<T, access a = access::sample>

T specifies the color type returned when reading from a texture or the color type specified when writing to the texture