Meshes

Let us create a World

Mesh

a mesh represents an object in a scene

it consists of vertices, edges and faces

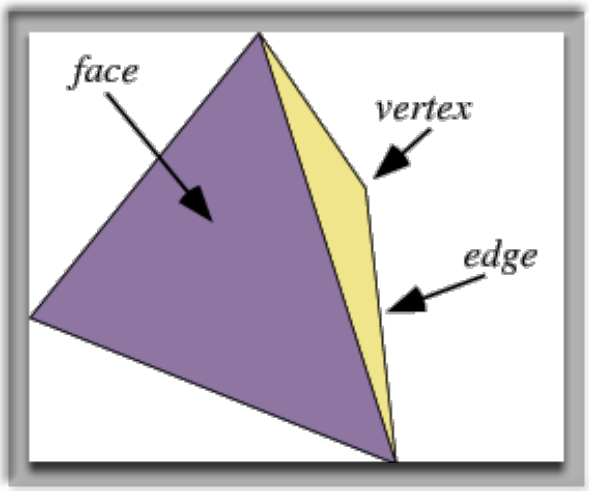
every mesh has it’s own local coordinate system

Vertex

structure for representing a point in space

consists of at least a position in space (normally 3D)

may have additional attributes



Edge

two vertices are connected through an edge

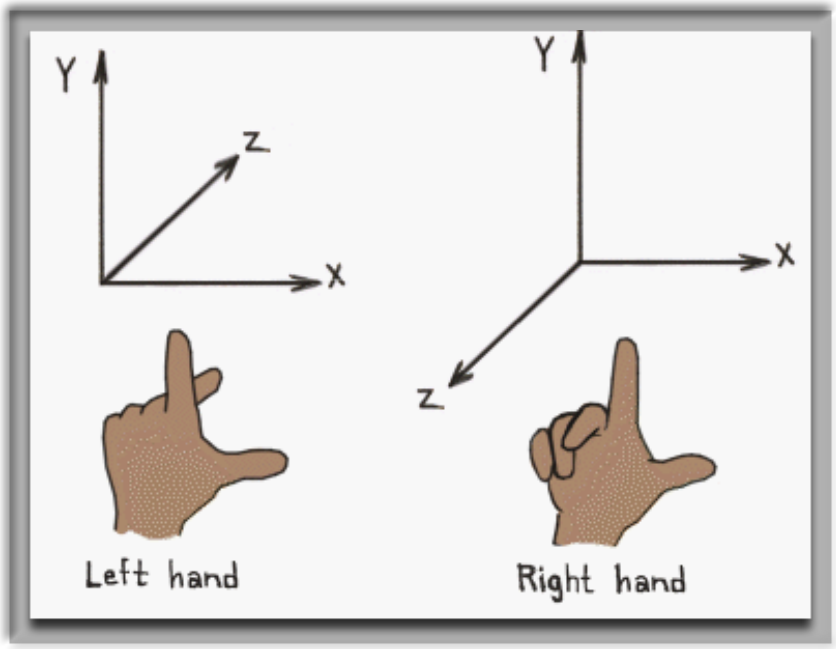
one vertex can be part of more than one edge

Face

area between at least three edges

defines a front- and backside

depends on coordinate system



Vertexbuffer

vertices will be saved in a vertexbuffer

each vertex will be saved sequentially

each vertex is an instance of a struct

consists all informations, e.g.

- position
- normal
- uv

Indexbuffer

indices refer to one vertex in vertexbuffer

indices can refer to a vertex more than once, but

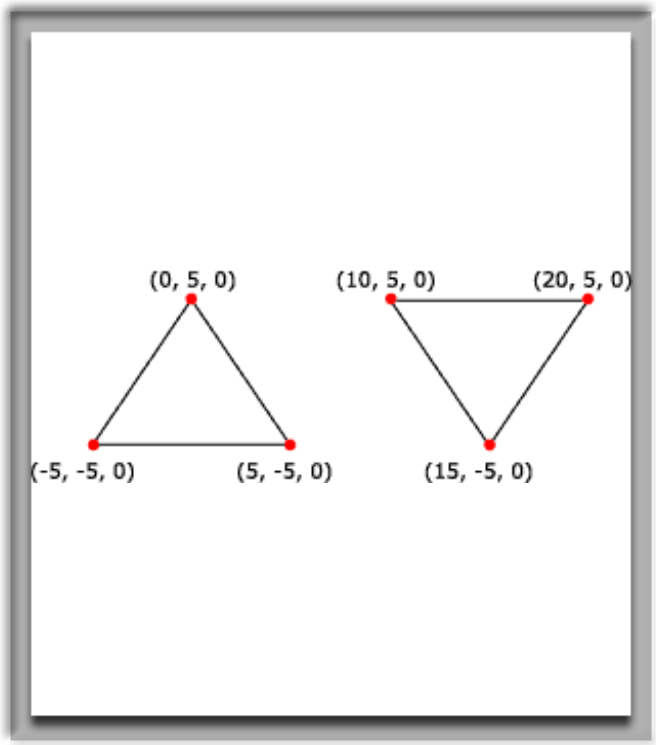
only once for one primitive

indices are saved sequentially

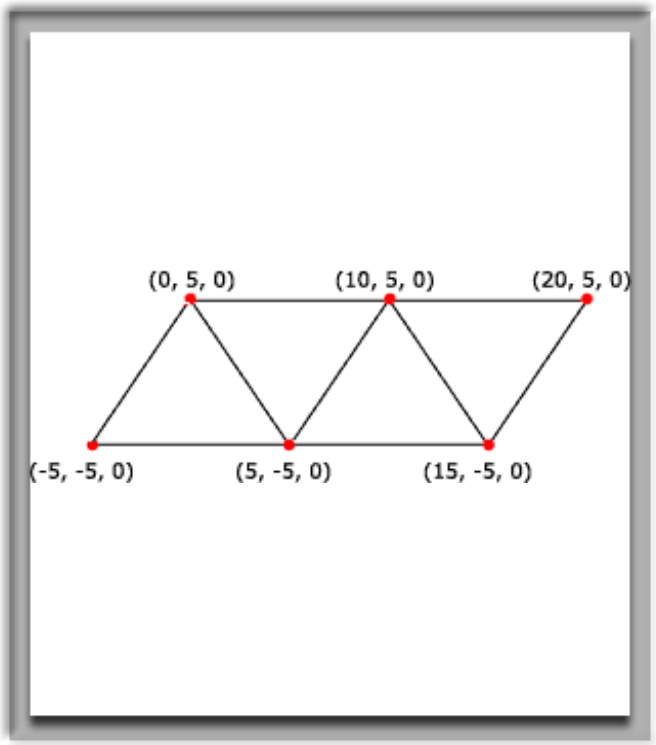
primitives are

- triangle
- line
- point

Primitives: Triangle

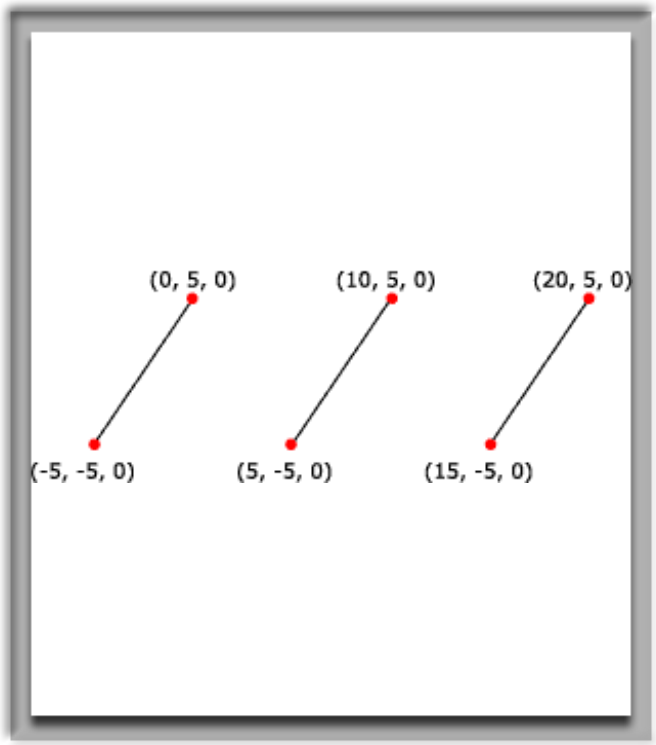


Trianglelist

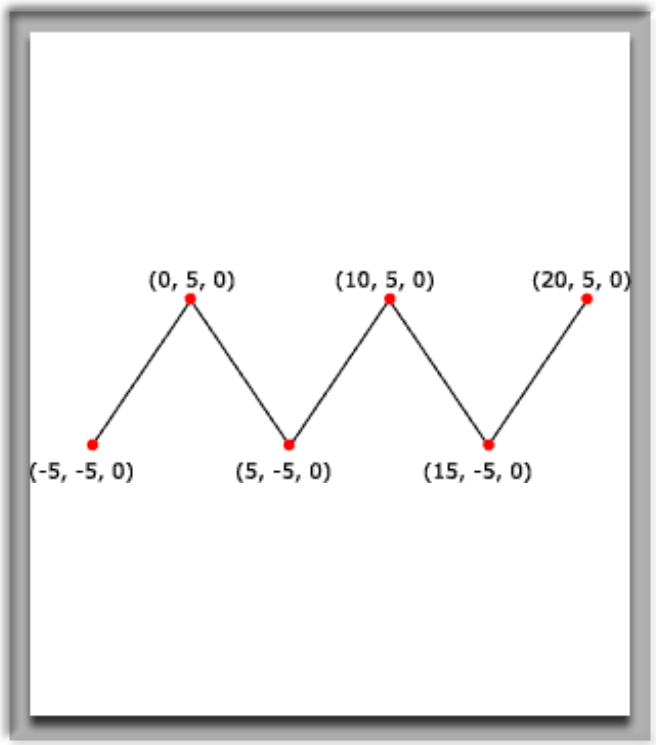


Trianglestrip

Primitives: Line

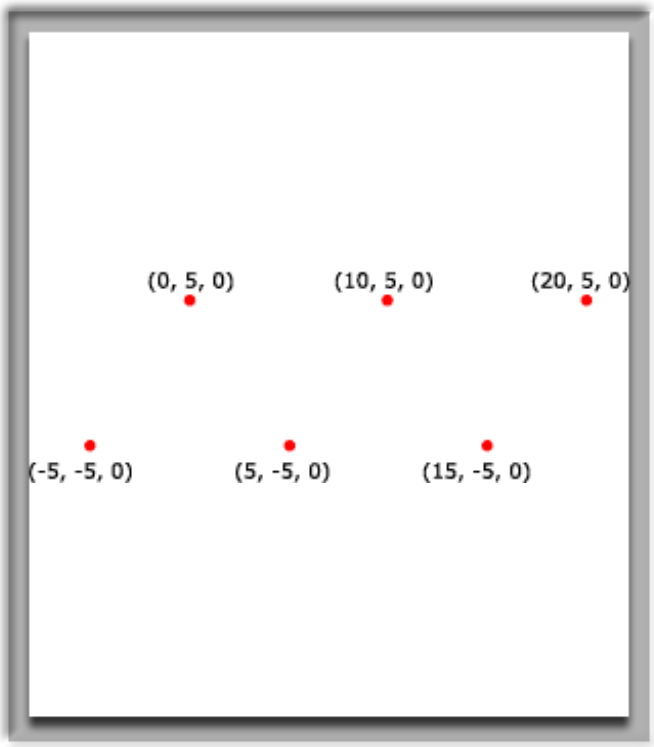


Linelist



Linestrip

Primitives: Point



Pointlist

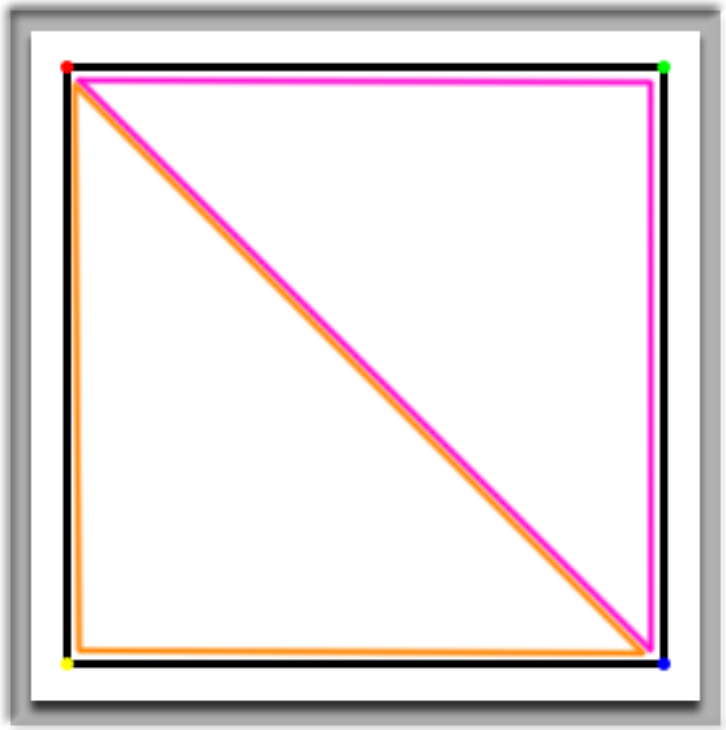
Create a Mesh

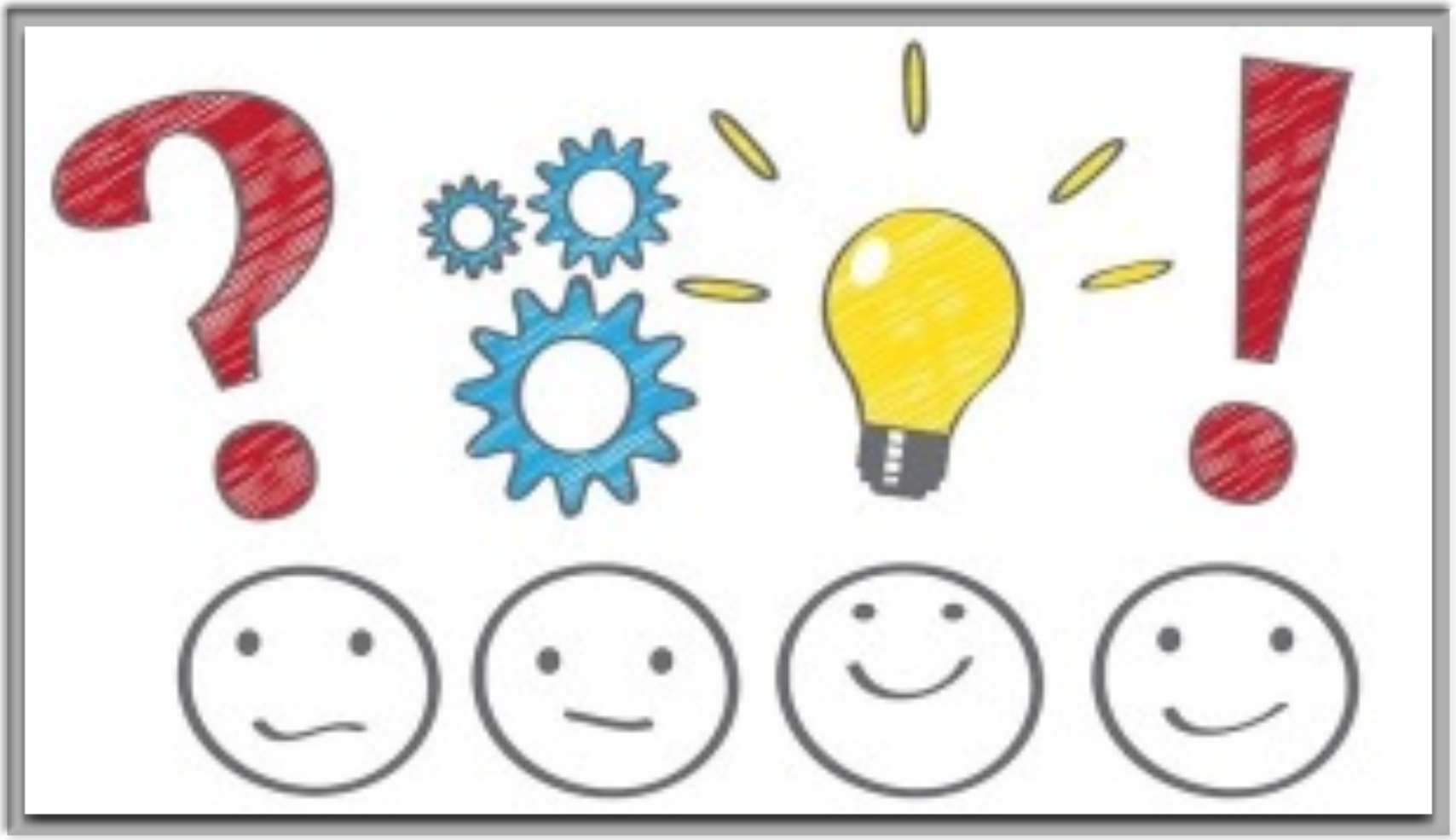
VertexBuffer

Vertex 1 Vertex 2 Vertex 3 Vertex 4 …

IndexBuffer

0	1	2	0	2	3	…





Coding Time

Let’s create a mesh