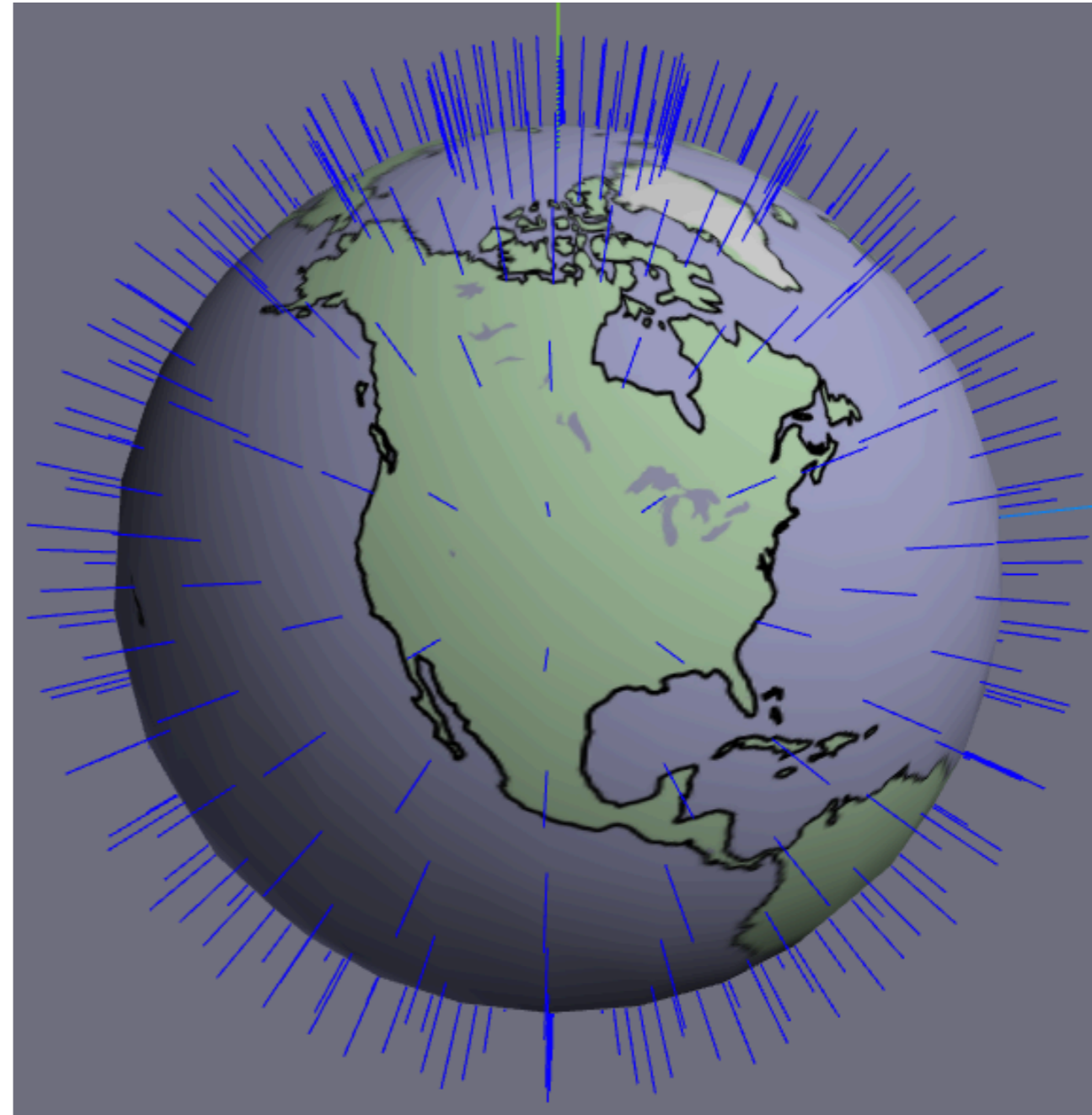


Computer Graphics



Lecture 4 (**LIVE**)

**Triangle Meshes:
Surface Normals**

Announcements

- Friday's class: again watch video(s) ahead, work on Problems in class.
- HW0 due Friday
- A0 code due Monday; artifact due Tuesday

Goals

- Know how to find out whether a 2D point is inside a given triangle.
- Understand the advantages and disadvantages of modeling objects using triangle meshes.
- Know how contiguous meshes of triangles can be represented using separate triangle sets, indexed triangle sets, **triangle strips**, and **triangle fans**.

Problems

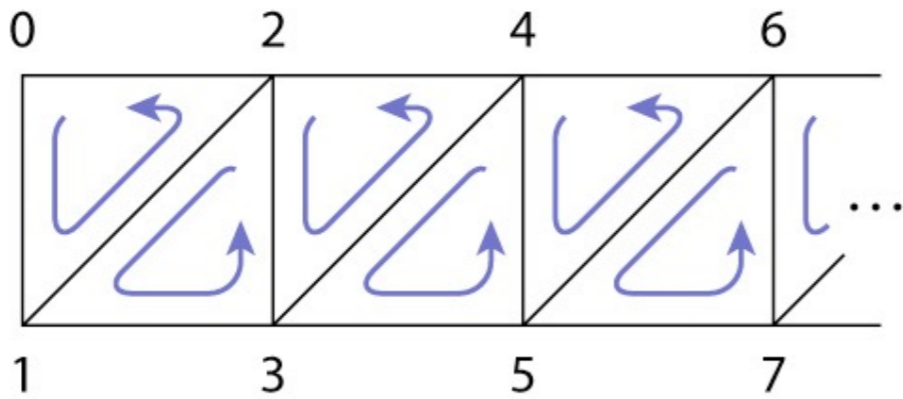
- Create an OBJ file for the pyramid with geometry (1) and normals (2).
- (3) Find the normal of a triangle
- If time allows, complete L03 Problems 3-4 (model the kite with a triangle strip and fan).

Submission Logistics

- **One** group member will submit two files to the L04 Problems assignment on Canvas:
 - 1.** Your OBJ file (with both geometry and normals)
 - 2.** A scan/photo of your solution set, including the names of the people in your group and your solution to #3.

L03 Problems 3-4

Triangle Strip:



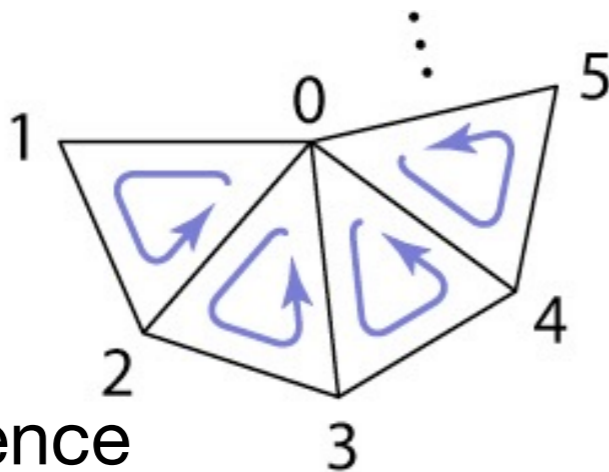
Vertex sequence

0, 1, 2, 3, 4, 5, 6, 7, ...

leads to triangle sequence:

(0 1 2), (2 1 3), (2 3 4), (4 3 5), ...

Triangle Fan:



Vertex sequence

0, 1, 2, 3, 4, 5, ...

leads to triangle sequence:

(0 1 2), (0 2 3), (0 3 4), (0 4 5), ...

