

Y. Wang

Project 2: Loop subdivision

Due: 9:00 am, Oct. 17, 2024, with a 24-hour grace period.

Implement binary Loop subdivision surfaces (shown in Figure 1).

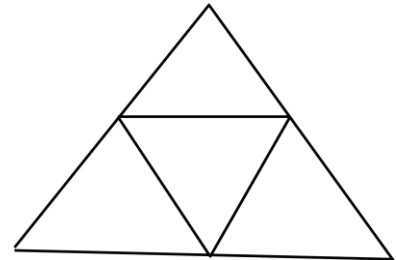
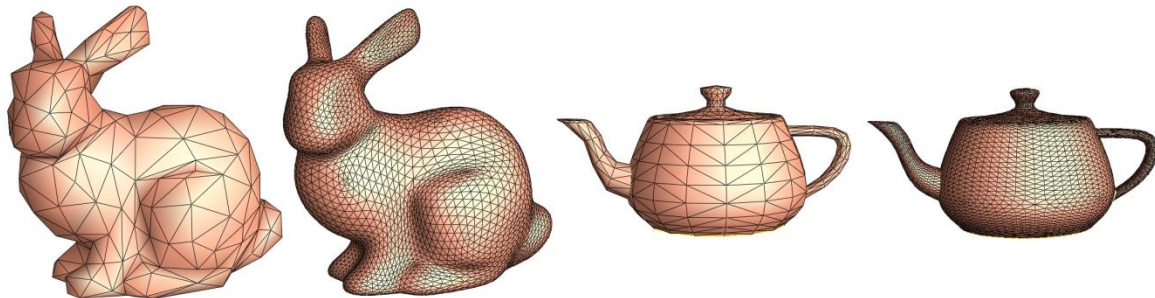


Figure 1. Binary Loop triangle subdivision.

Testing data:

- 1) Utah's teapot model
- 2) Stanford's bunny model



Software library:

- A C++ halfedge data structure software library is provided and encouraged to use in the project.
- A Python halfedge data structure software library. Test.py is a good starting point.
- Mesh format is .m, obj, and off format. A free obj/off file viewer can be downloaded from <http://meshlab.sourceforge.net/>. .m files can be visualized by G3DOGL.

Hand in:

- 1) Loop subdivision implementation whole source code compilable package;
- 2) Subdivision surface results (in obj format) after one iteration;
- 3) Subdivision surface results (in obj format) after two iterations.



Bells and Whistles (20 points):

Try to implement a subdivision scheme which works on a single mesh dynamically, using edge splitting and edge swapping functions.