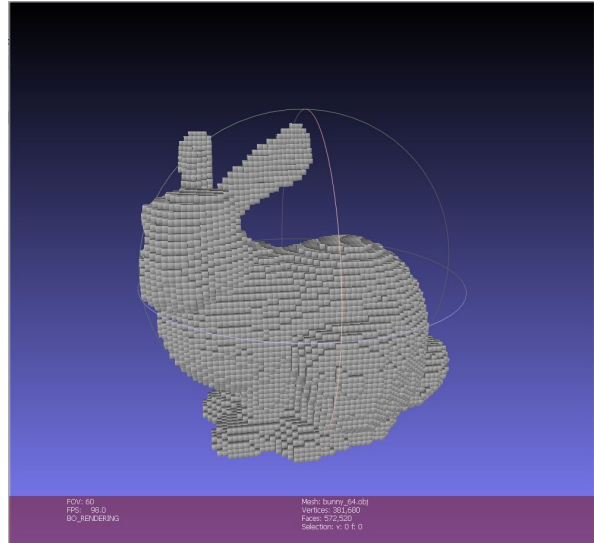
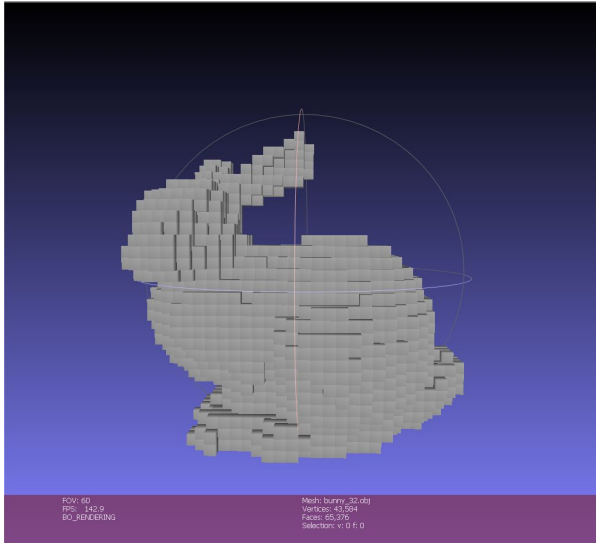


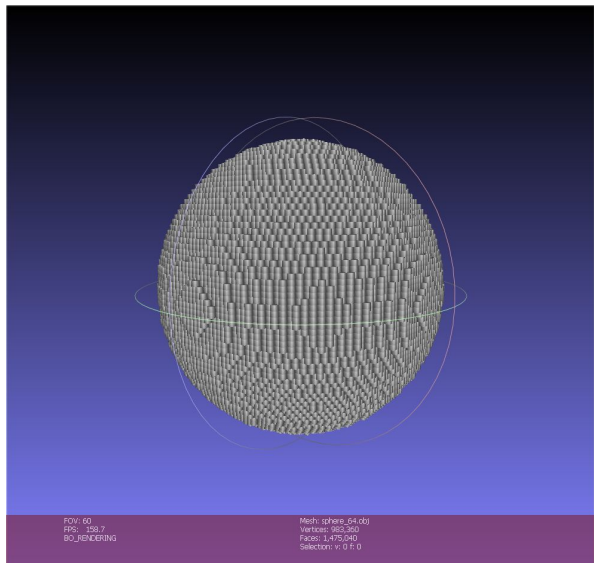
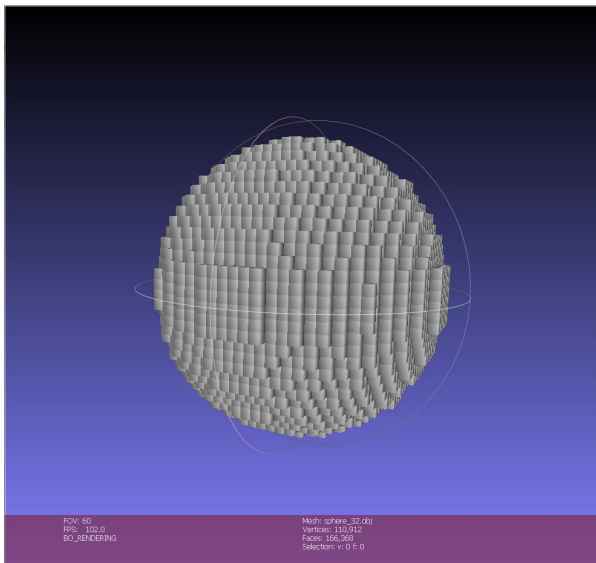
## Assignment 1: Voxelization Report

### Image of voxelization of all sample files (32 , 64)

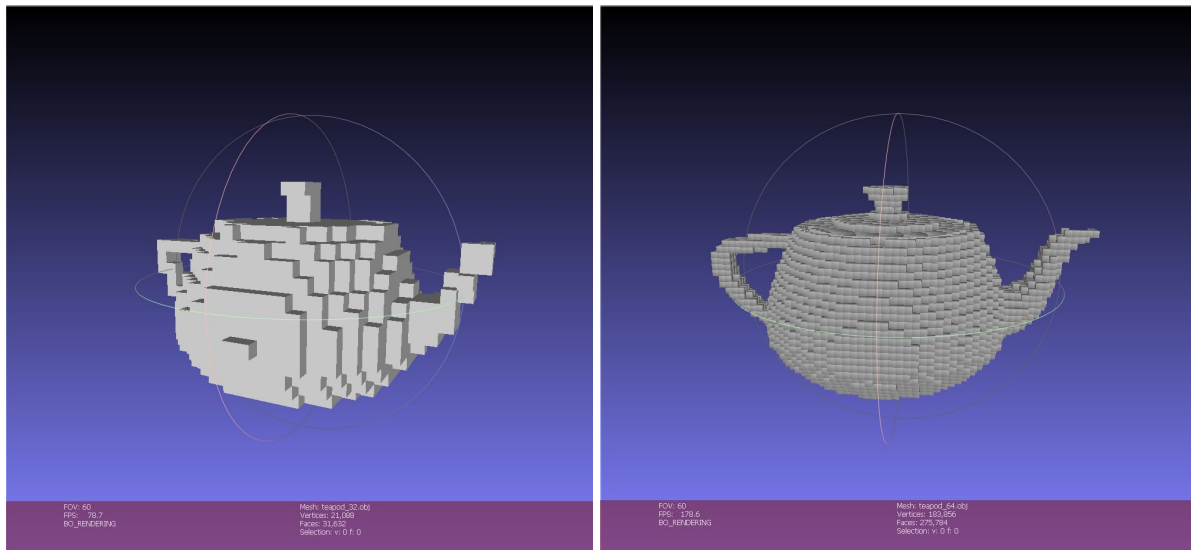
- Bunny voxel



- Sphere voxel



- Teapot voxel



## Reference sources

1. <https://www.scratchapixel.com/lessons/3d-basic-rendering/ray-tracing-rendering-a-triangle/ray-triangle-intersection-geometric-solution>
2. [https://courses.cs.washington.edu/courses/csep557/10au/lectures/triangle\\_intersection.pdf](https://courses.cs.washington.edu/courses/csep557/10au/lectures/triangle_intersection.pdf)
3. [https://en.wikipedia.org/wiki/M%C3%B6ller%E2%80%93Trumbore\\_intersection\\_algorithm](https://en.wikipedia.org/wiki/M%C3%B6ller%E2%80%93Trumbore_intersection_algorithm)

These links provides an explanation of a ray-triangle intersection

This link provides full ray-triangle intersection algorithm in c++ for assignment part 1

## Problems found

- The program took a long time to convert mesh into voxel. After investigation, I found out that it was caused by the ray-triangle intersection algorithm that slows down the overall process.
  - Optimizing the algorithm might speedup the process

## Extra credit

- No extra credit feature T^T

## Comments

- None