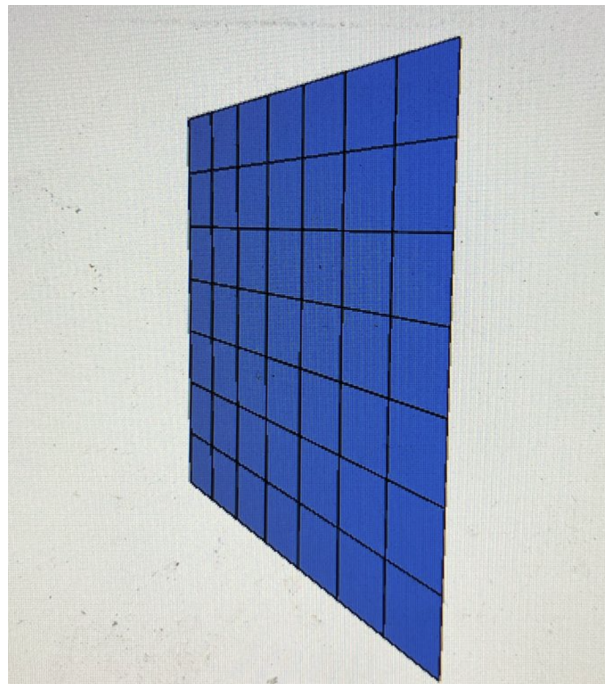
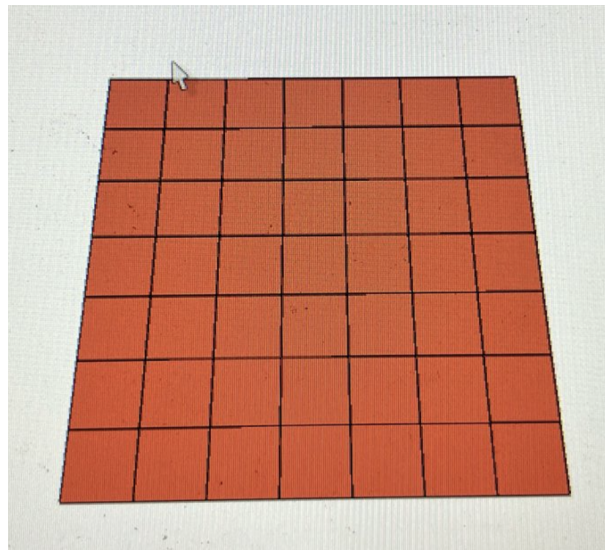


COL781 Assignment 2

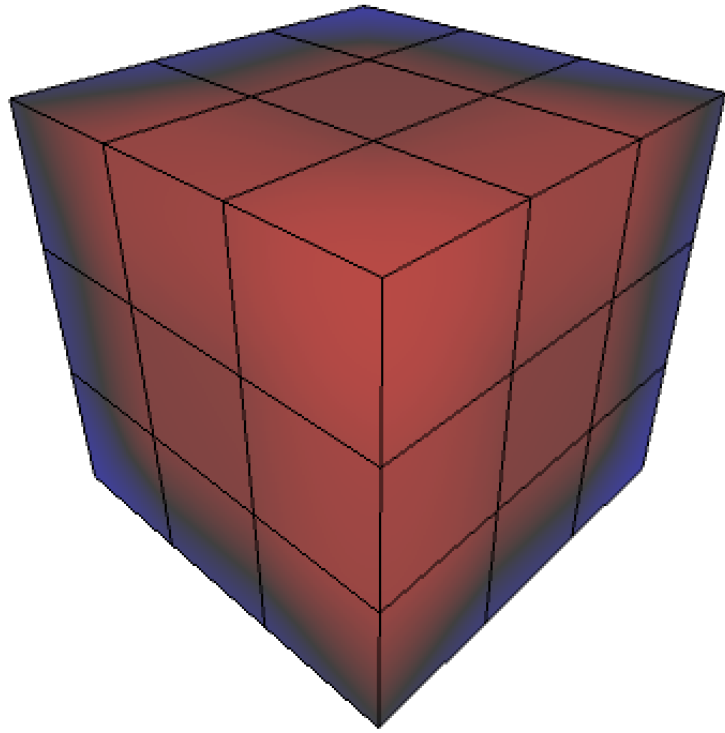
Mihir Kaskhedikar 2021CS10551
Aum Gupta 2021MT10888

March 2025

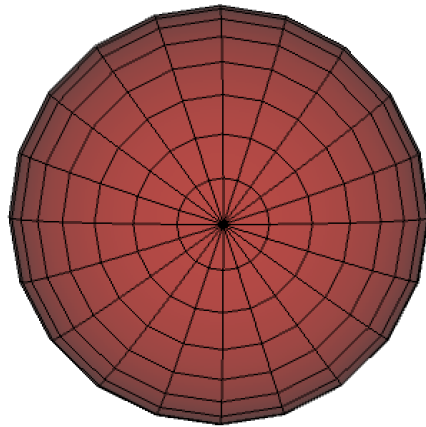
1 Square Mesh

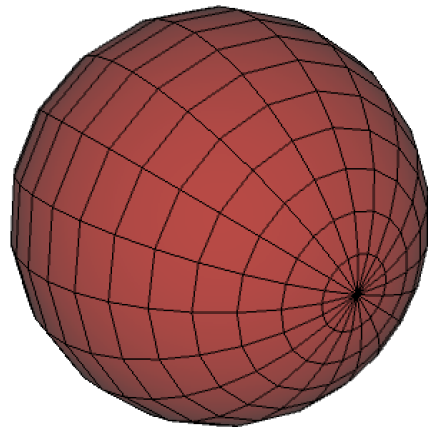
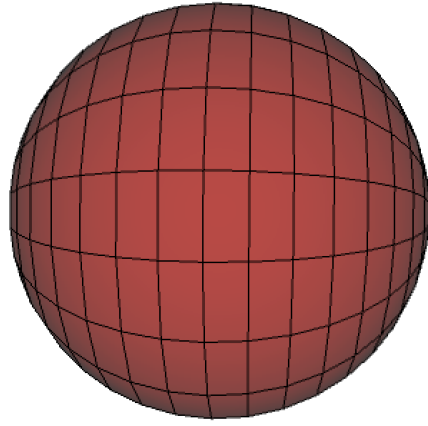


2 Cube Mesh



3 Sphere Mesh





4 Laplacian Smoothing

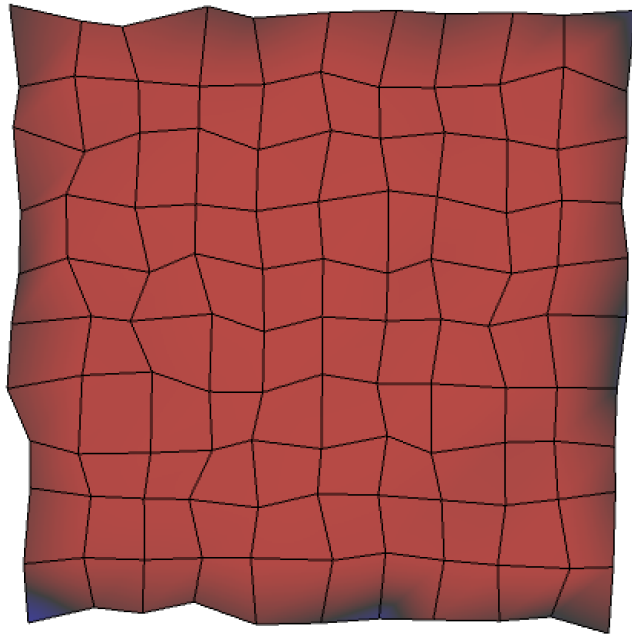


Figure 1: Side face of a noisy 10 x 10 x 10 cube

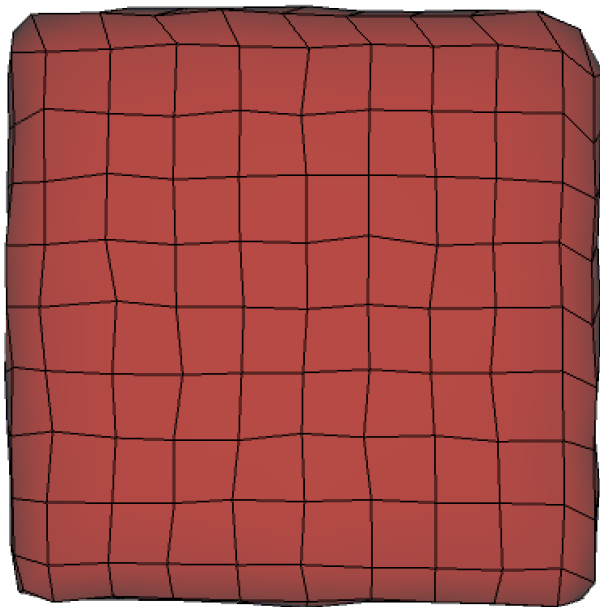


Figure 2: Side face of a noisy cube after Laplace smoothing with $\lambda = 0.01$ and 100 iterations

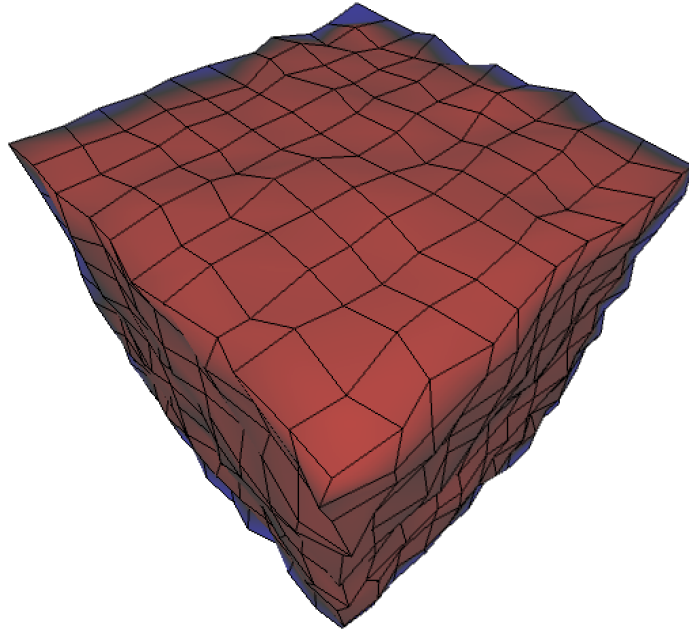


Figure 3: A noisy 10 x 10 x 10 cube

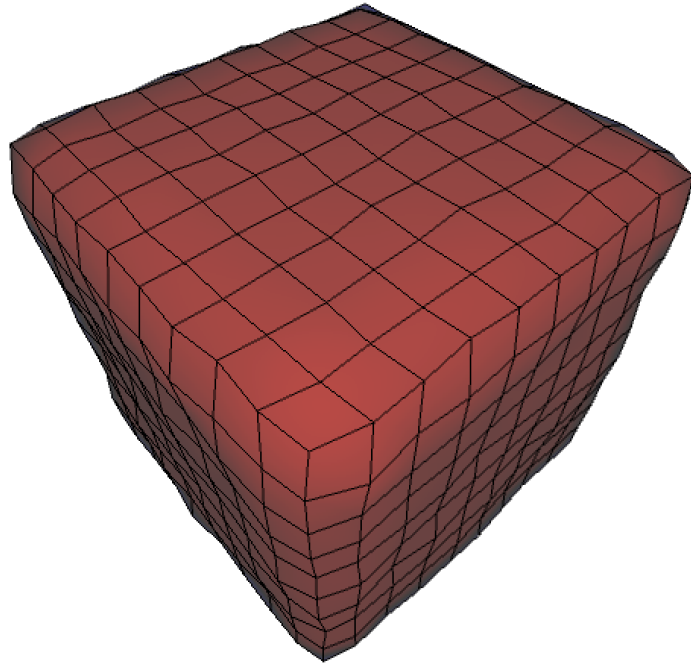


Figure 4: A noisy 10 x 10 x 10 cube after Laplace smoothing with $\lambda = 0.01$ and 100 iterations

5 Extrusion

5.1 Extruding central faces of a $3 \times 3 \times 3$ cube

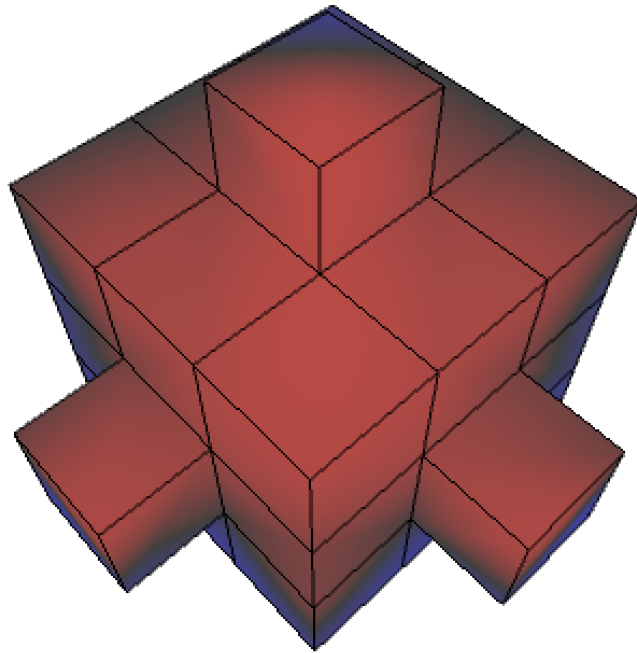


Figure 5: Extruded central faces of a $3 \times 3 \times 3$ cube

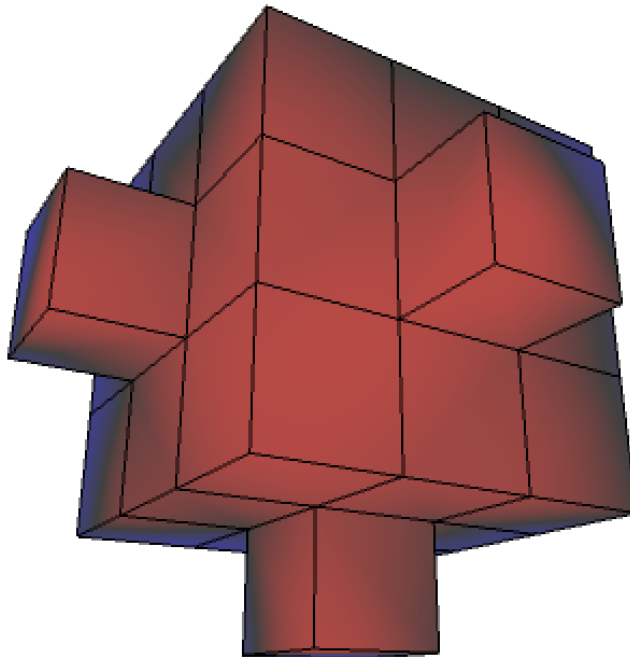


Figure 6: Extruded central faces of a $3 \times 3 \times 3$ cube

5.2 Extruding connected region of a sphere

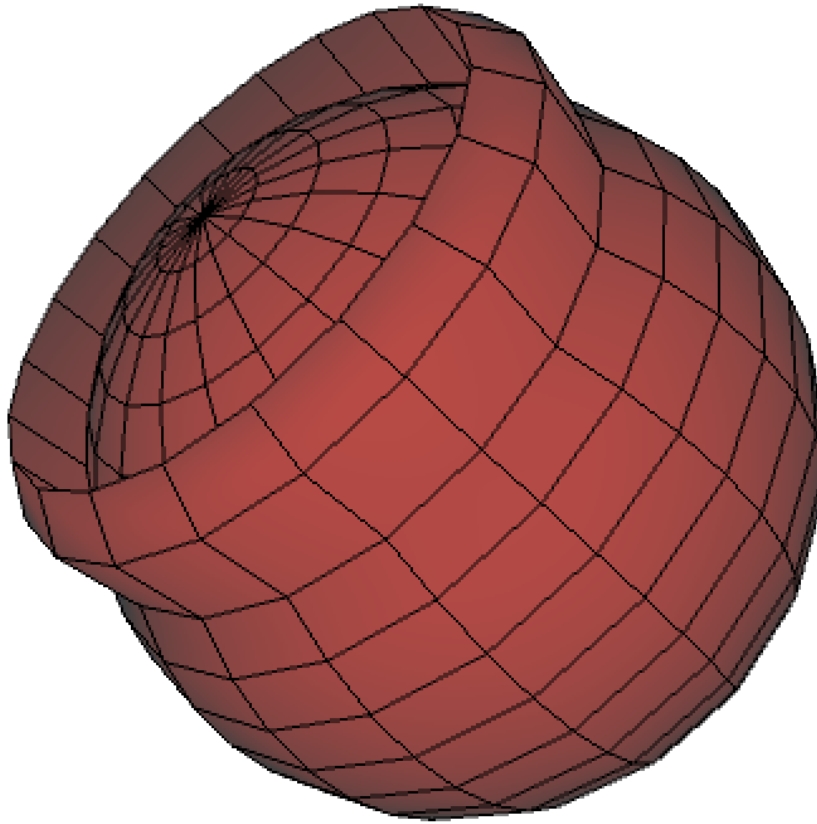


Figure 7: Extruded a continuous region of a sphere

6 Creating our own mesh

We tried to create a pot from a sphere by extruding all the faces along some line and then removed all faces above this latitude to represent a container-shaped structure.

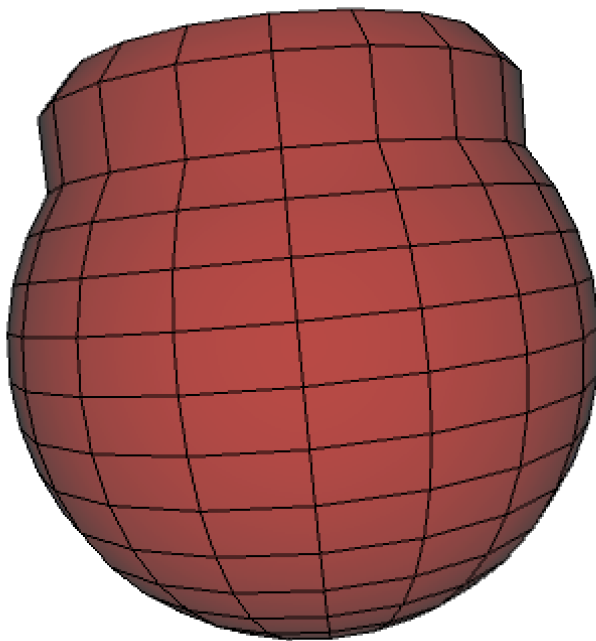


Figure 8: Exterior of the pot

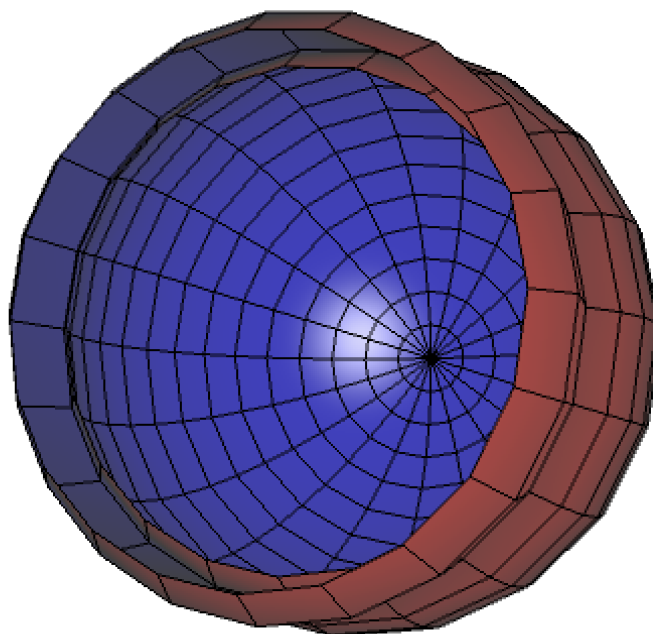


Figure 9: Interior of the pot