Assignment 2 Report

Student Name:
Shaghayegh Dehghanisanij

501080180

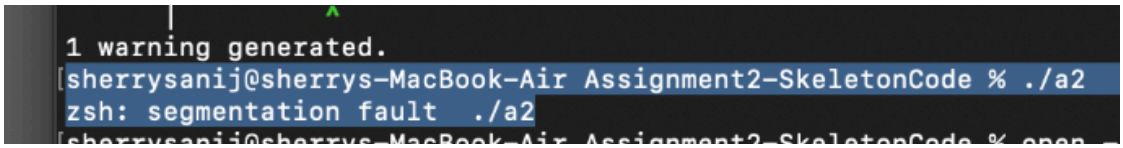
Problems that I faced during this assignment

- Replacing glBegin/glEnd to modern OpenGL with VAOs and VBOs was time consuming and difficult. I spent a lot of time going through OpenGLMeshRendering slides to understand how to set up buffers and link everything together.

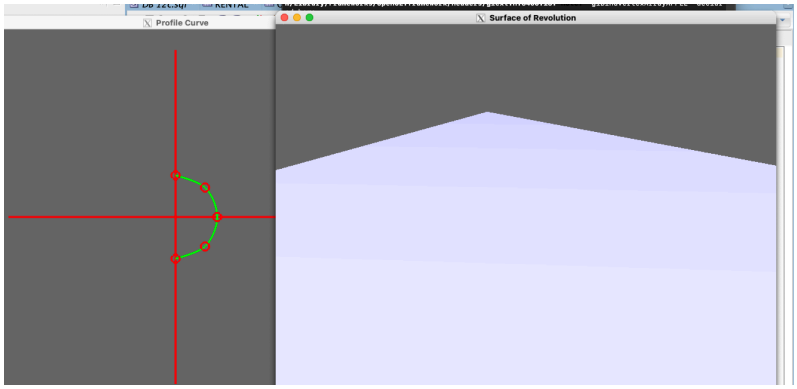
- Pulling vertex positions, normals, and indices from *varray* and *qarray* was more difficult than expected. Eventually, I wrote helper functions to flatten and organize the data into arrays.

- Getting the shaders to process vertex positions and normals needed lots of debugging.

- I kept running into segmentation faults during memory allocation for the vertex and index buffers. It was frustrating because the errors weren't immediately obvious. I relied heavily on debugging tools like '*lldb'* to track down the issues. Most problems came from out-of-bounds accesses or incorrect pointer handling, which I fixed by carefully checking all allocations.



- In Task 3, the mesh would sometimes disappear entirely or fail to render properly. It seemed inconsistent, which made debugging harder. I double-checked the data passed to the VBOs and found that sometimes indices or vertex data weren't being uploaded correctly.



- OpenGL doesn't directly support GL_QUADS in some versions, so I had to convert quads into triangles.

- My system didn't fully support some newer OpenGL features, which limited some of the techniques I could use.