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DATT 2500
6/10/2021

Project 1

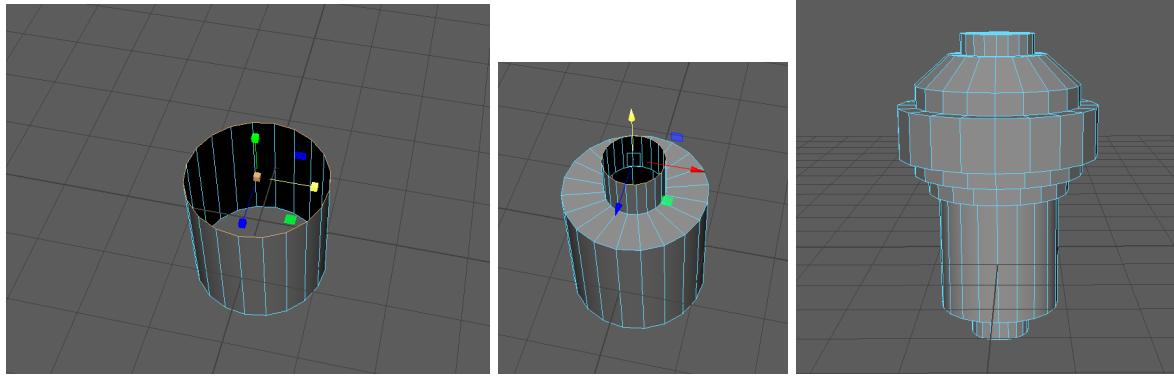
For my project I decided to model my lamp. I noticed that there were 3 main sections of the lamp: the base, the connectors, and the light itself. I decided to build each portion separately and then connect them all together at the end.



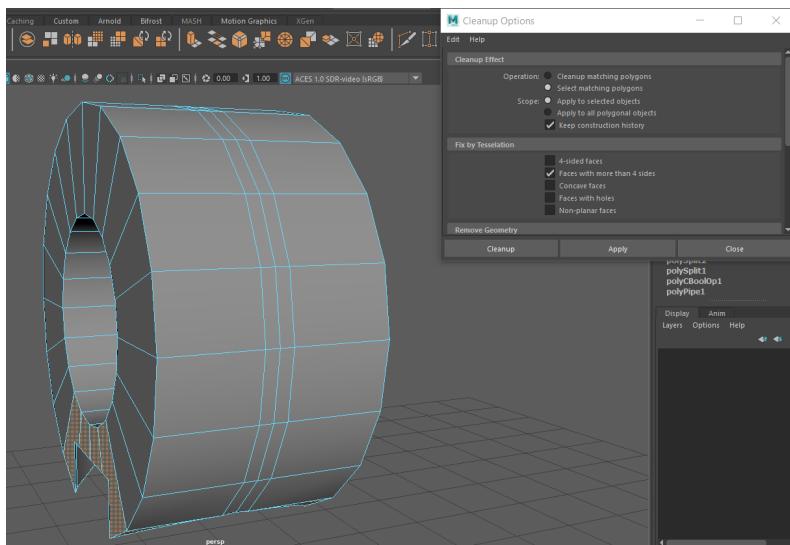
I started with the light.

I started with the piece that connects the bottom of the light to the connectors.

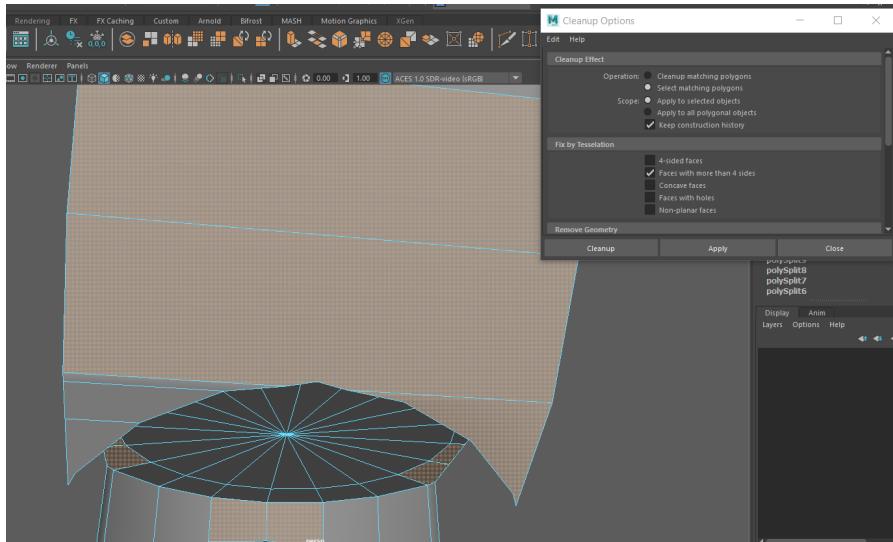
I took a cylinder primitive, deleted the faces on the top and bottom then continued to extrude its edges inwards and upwards until I got the desired shape, using merge to center to close it off.



To create the ring at the top I used a pipe primitive. In order to make sure it fit correctly into the cylinder I used the boolean difference command to cut out the shape of the cylinder from the pipe.

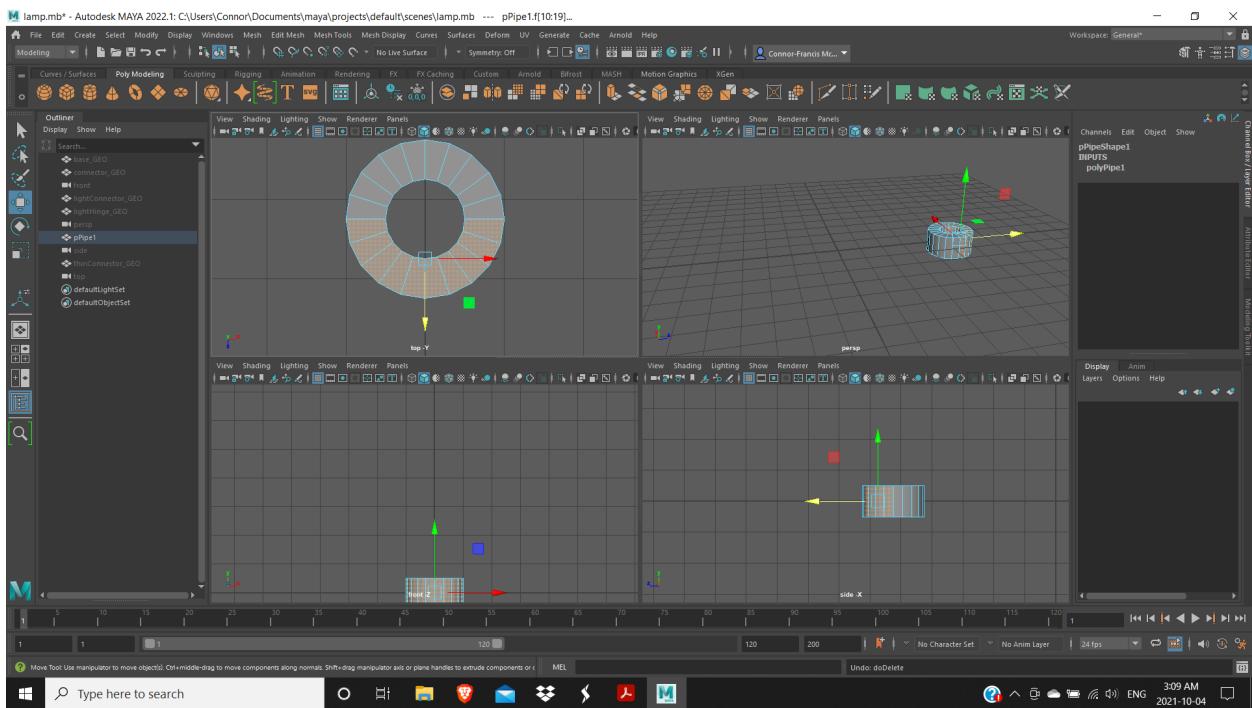


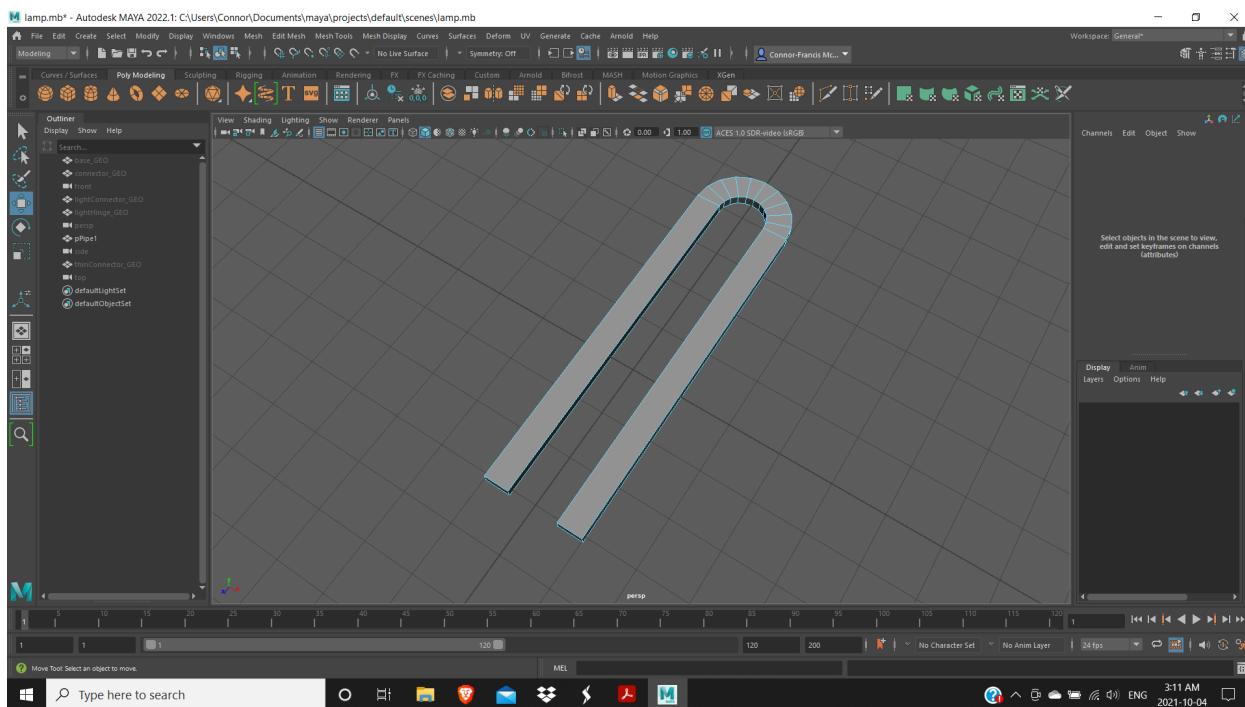
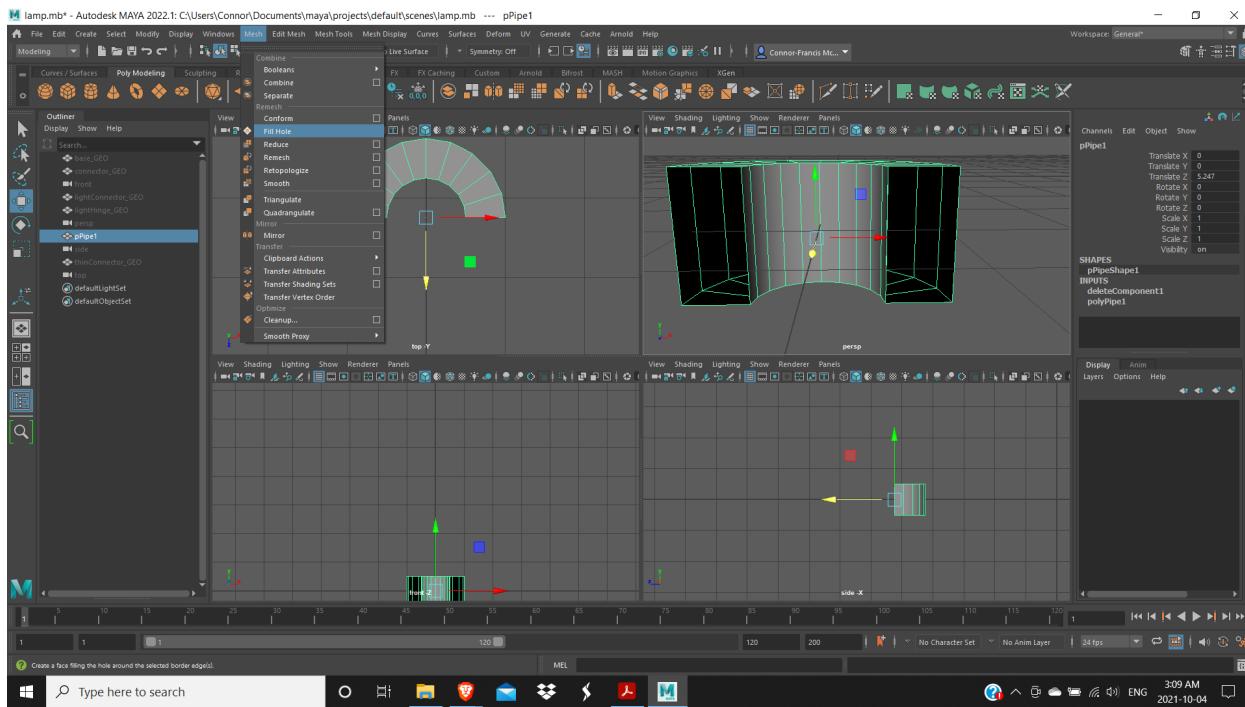
This created many ngons that I needed to fix with the Multi-Cut tool. The hardest part was finding all of the ngons, as many faces looked like quads but were actually ngons. Using Mesh→Cleanup I found the ngons.



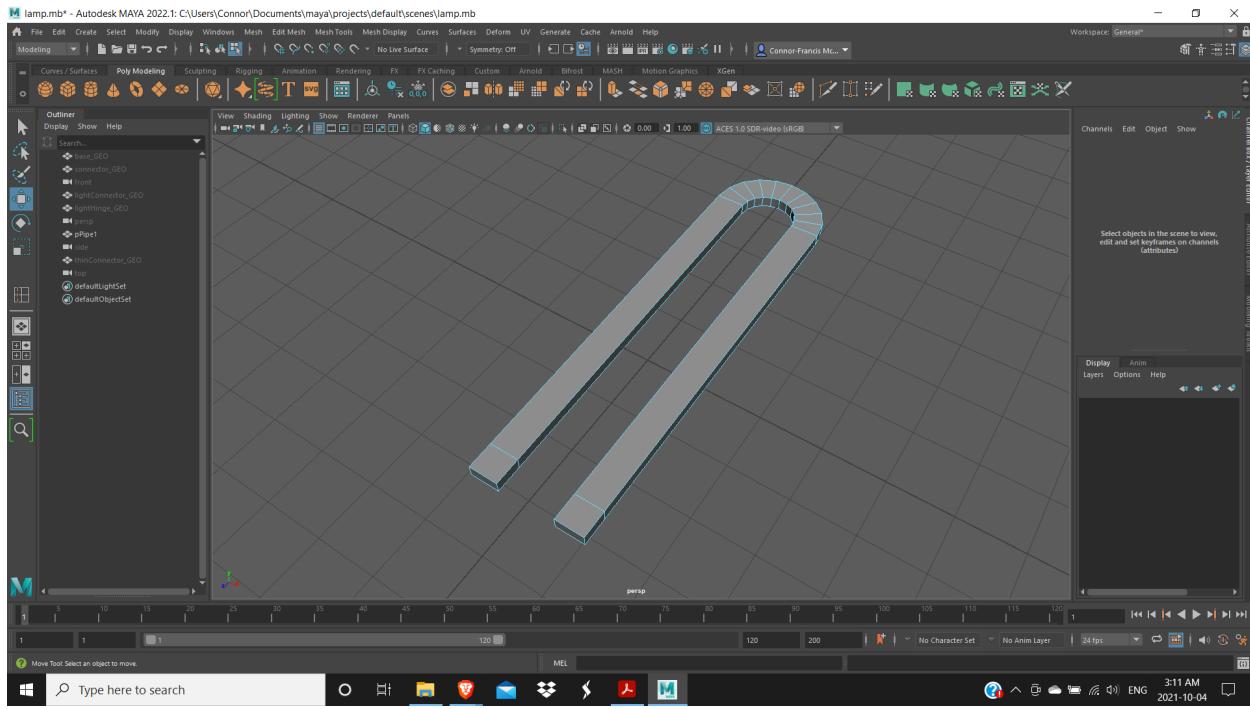
The bulb was easily the most difficult part of the entire project, as there were so many different types of shapes that seemed to blend into one, making it hard to find out what primitives to combine.

I finally decided on a partially filled extruded pipe on the bottom

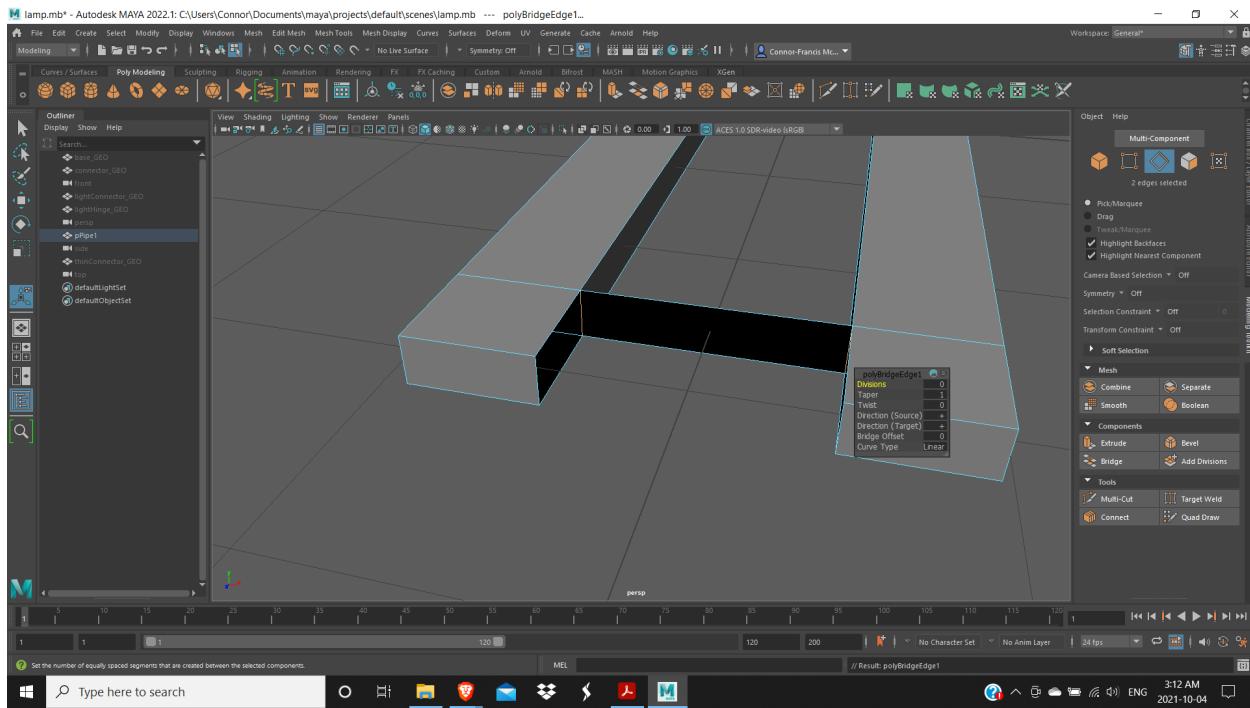


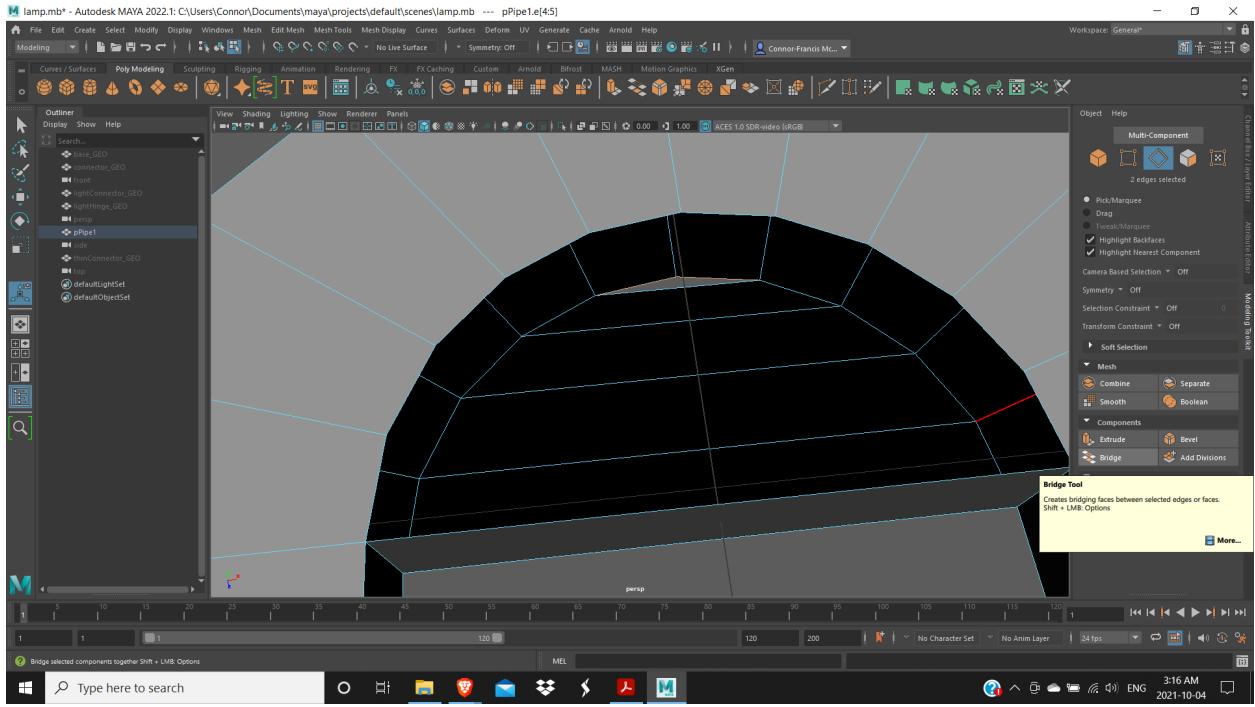


- These bottom faces were extruded

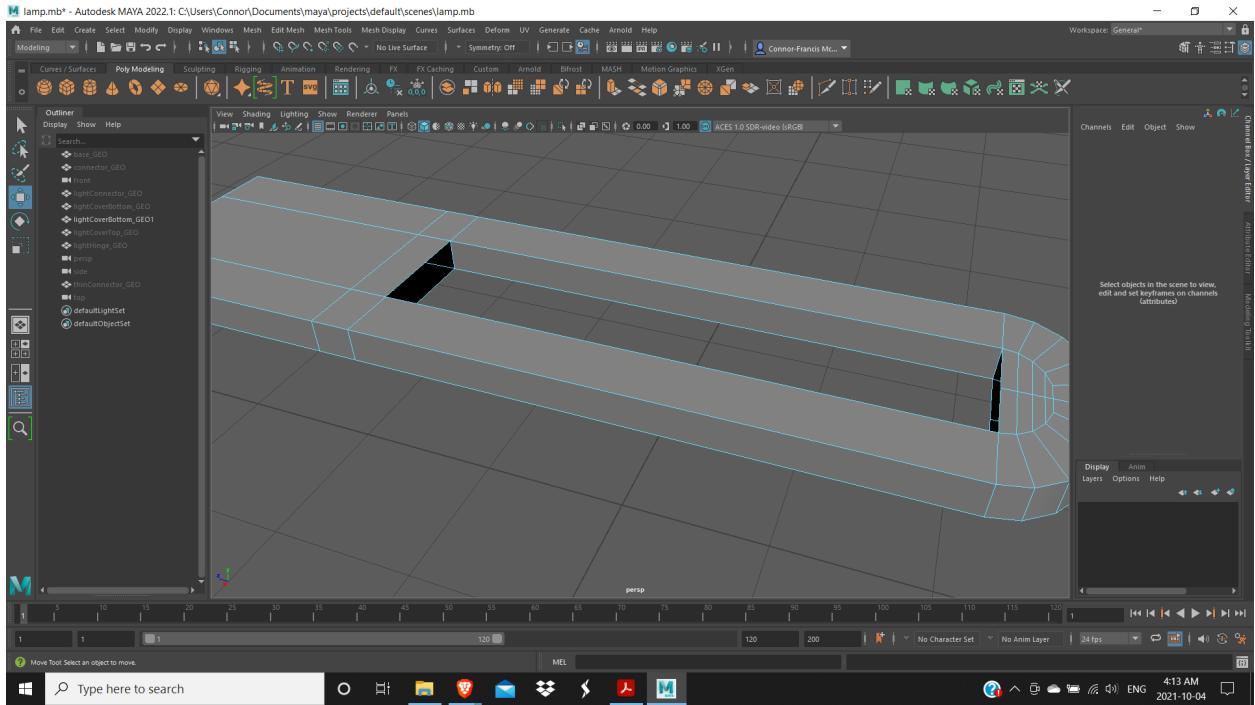


- Insert edge loops on both sides

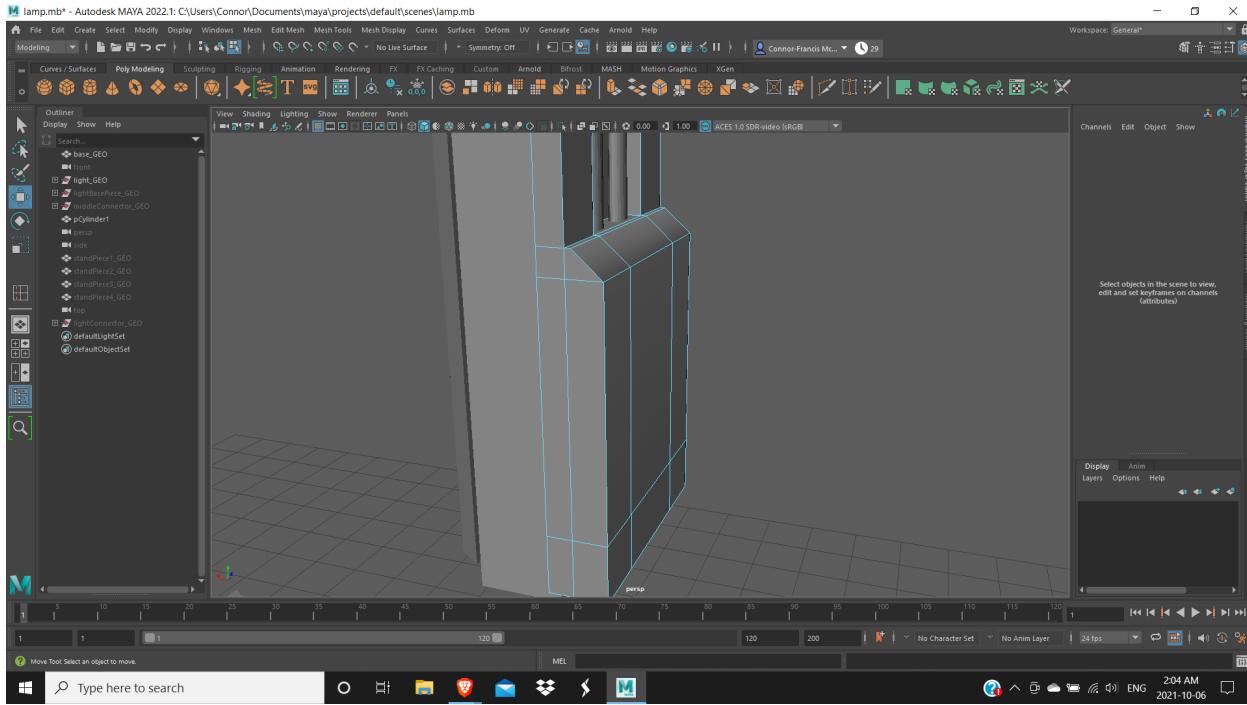




- Bridge the edges at the top of the pipe as well

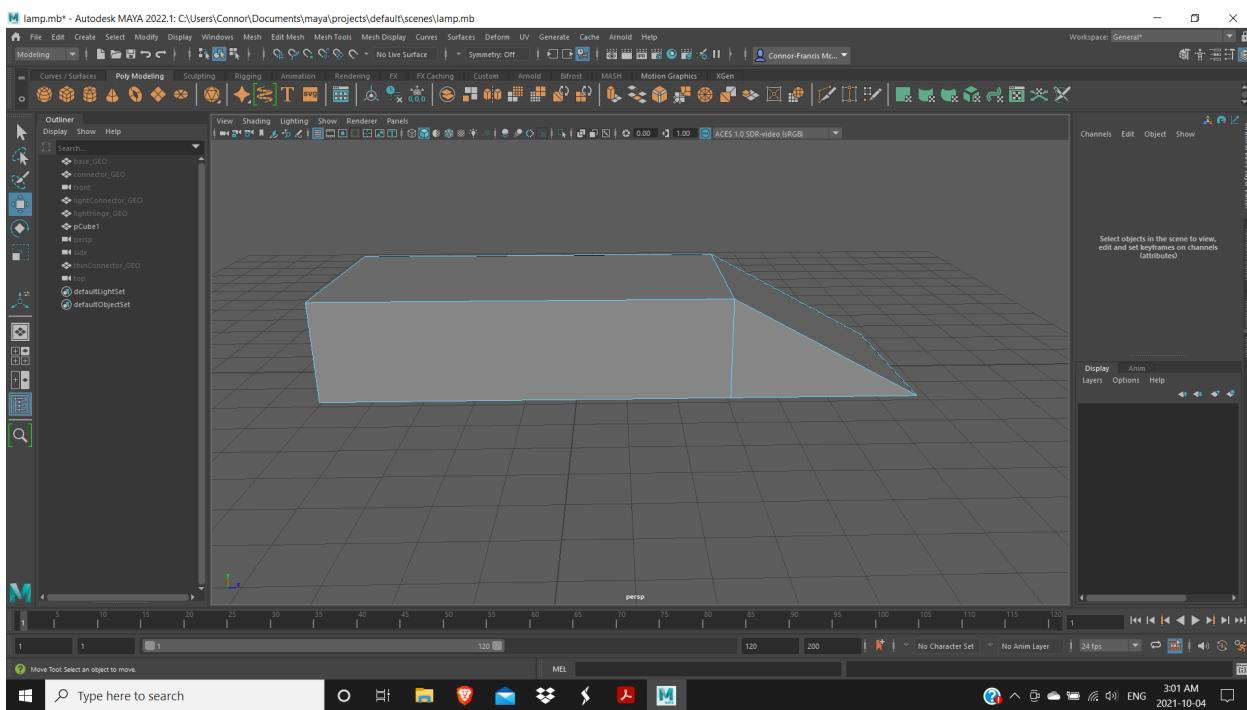


- Both open faces were then closed using the bridge command



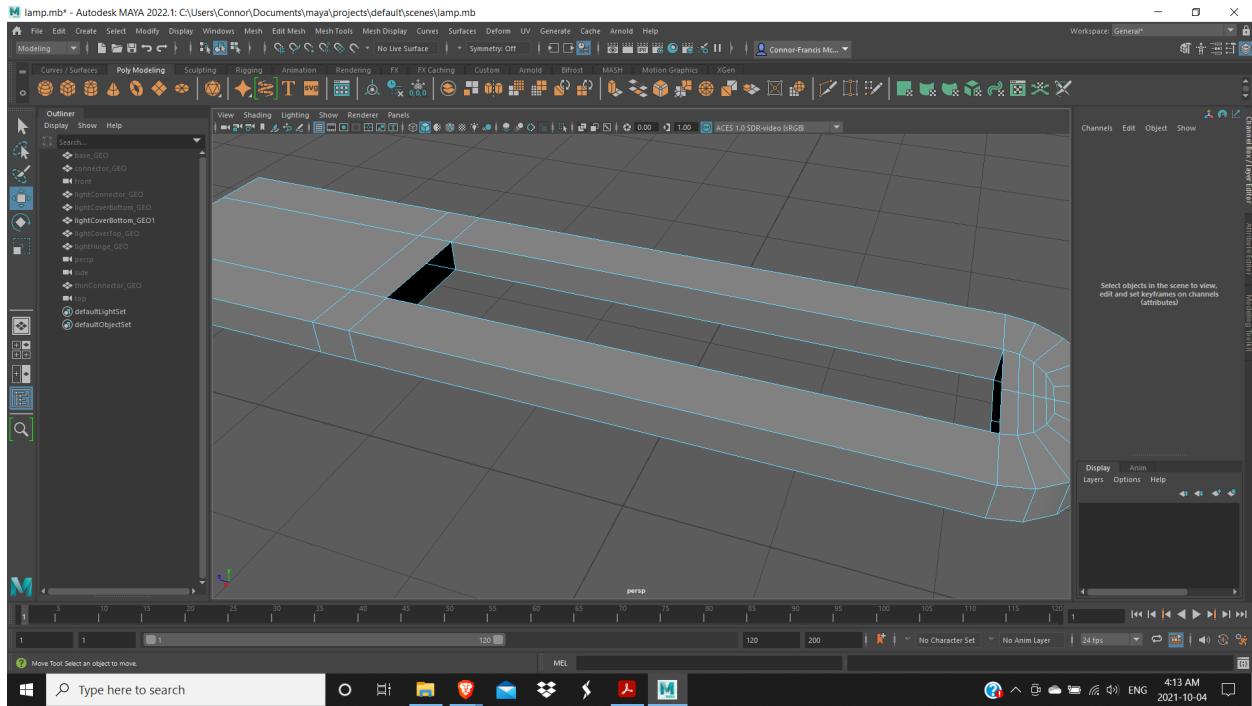
- The bottom was then extruded

A stretched cube for the middle

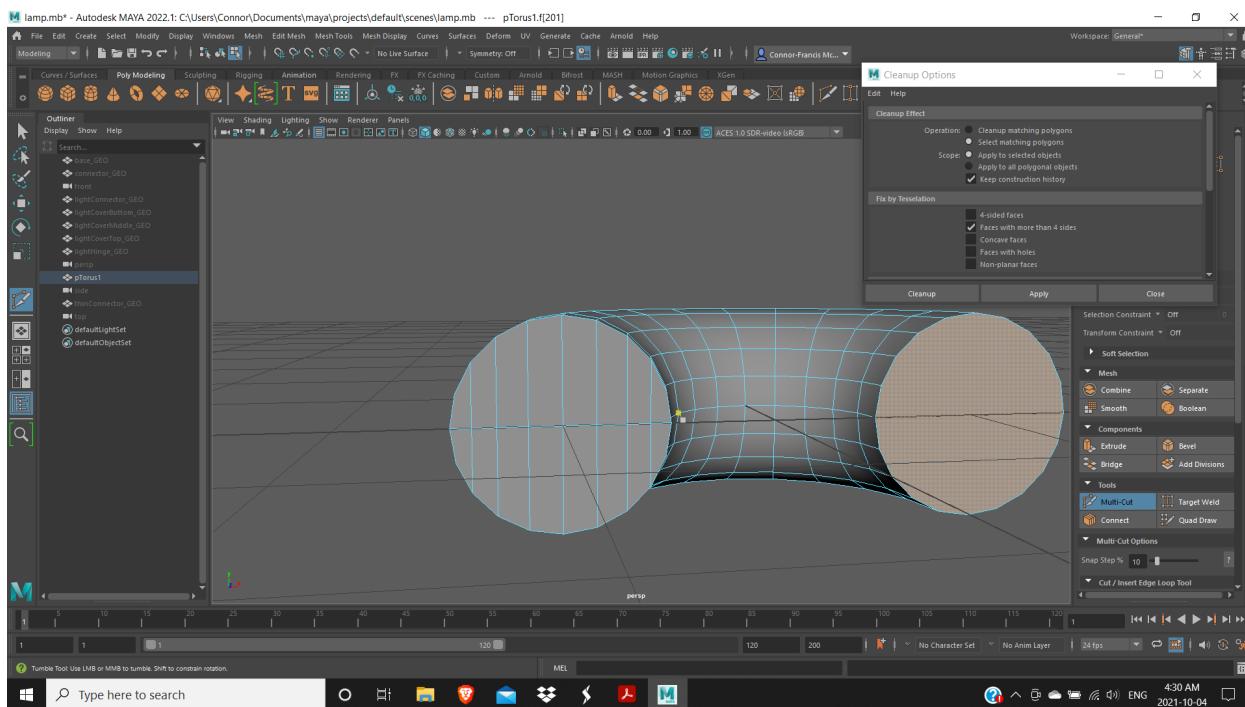
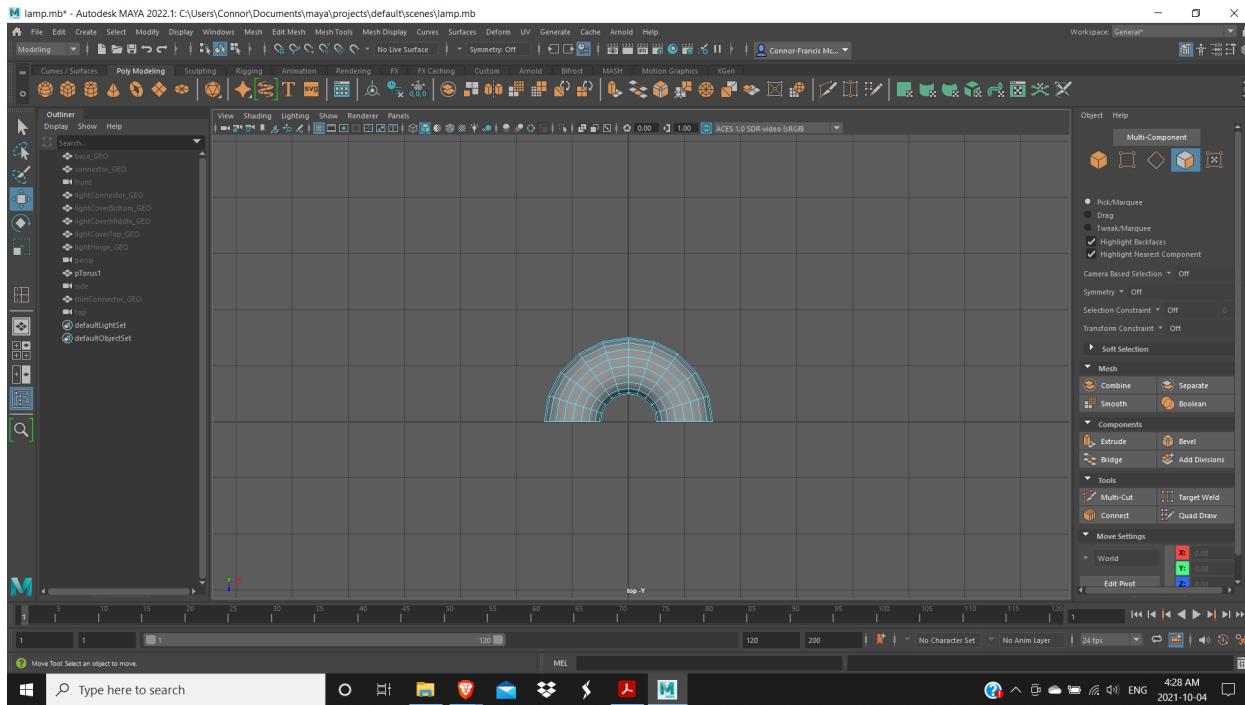


Finally a filled extruded pipe on top

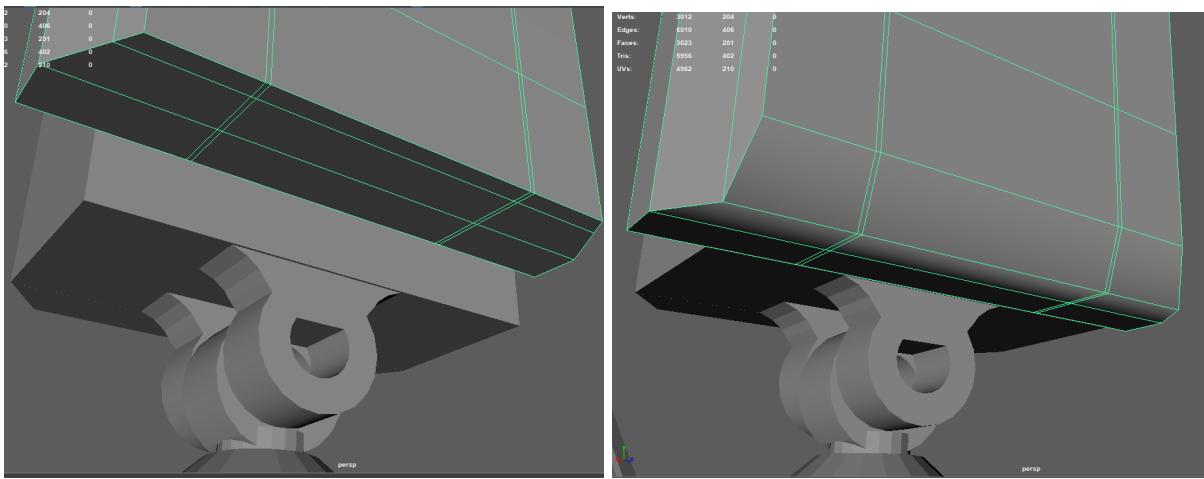
- This was done very similarly to the bottom pipe, except the top and bottom were bridged to each other, filling in the hole after I deleted the inside faces



I then used half of a torus with its ends extruded as the bulb itself



I noticed on the lamp that the pieces flowed into one another seamlessly, forming one fluid shape. I tried to recreate this by stacking the pieces together and stretching the bottom edges until they reached the edge of the shape.

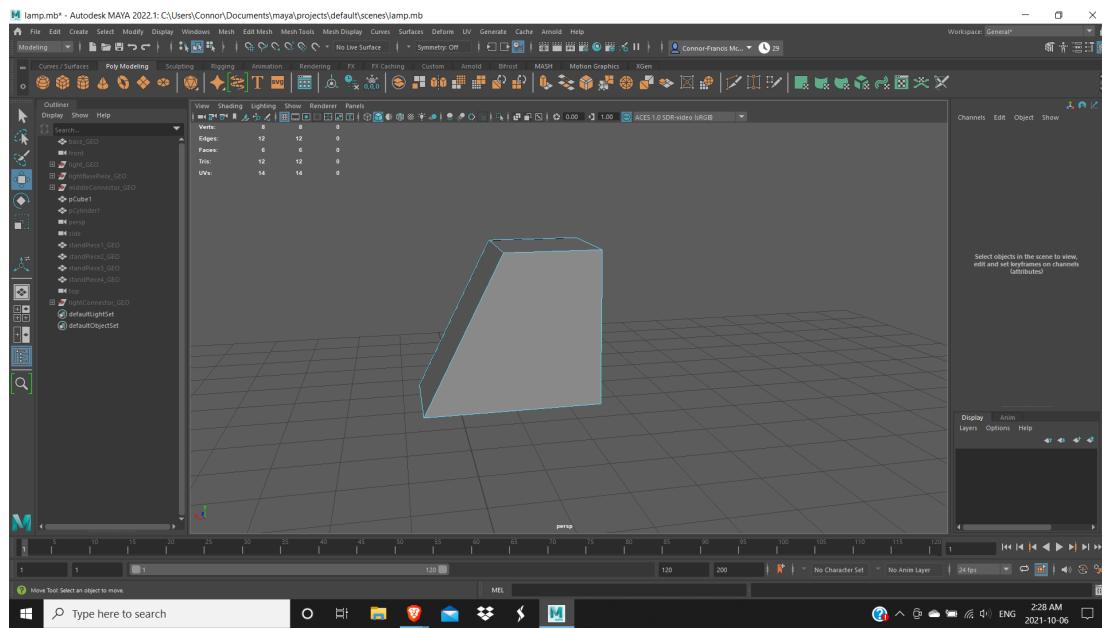


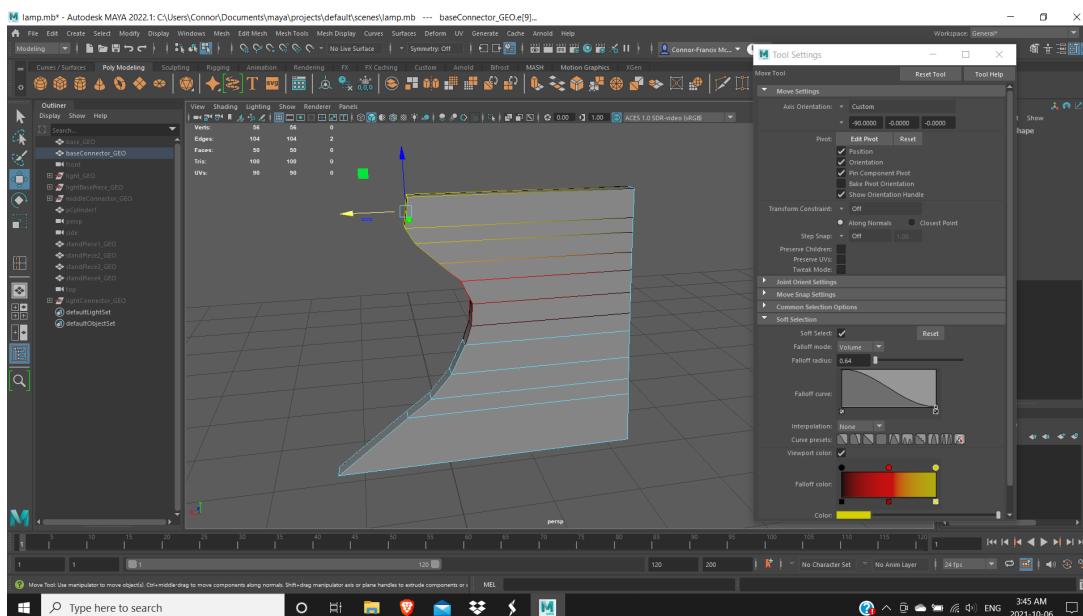
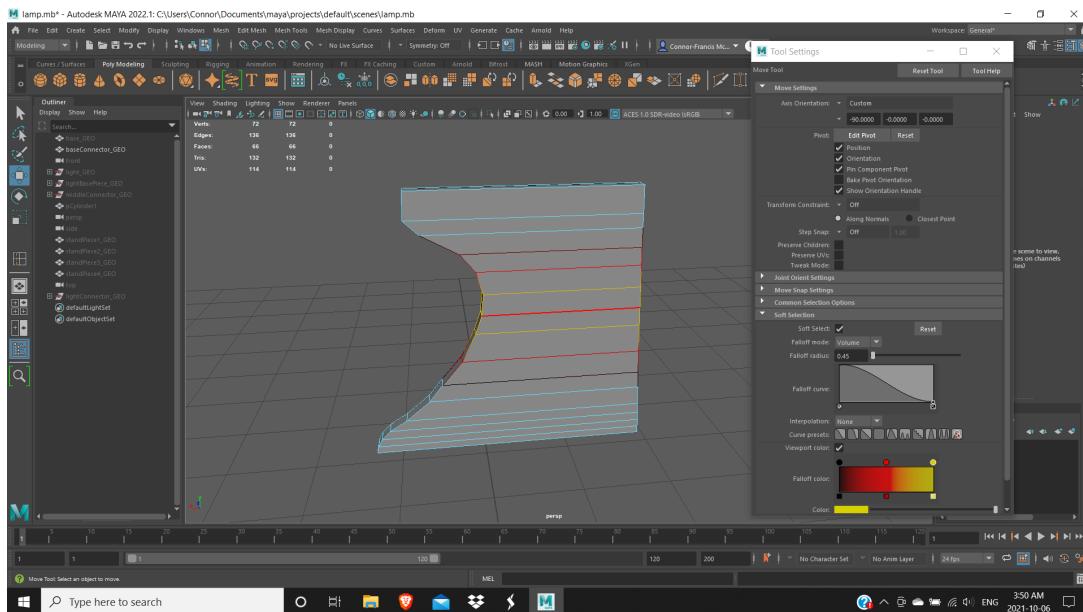
Before

After

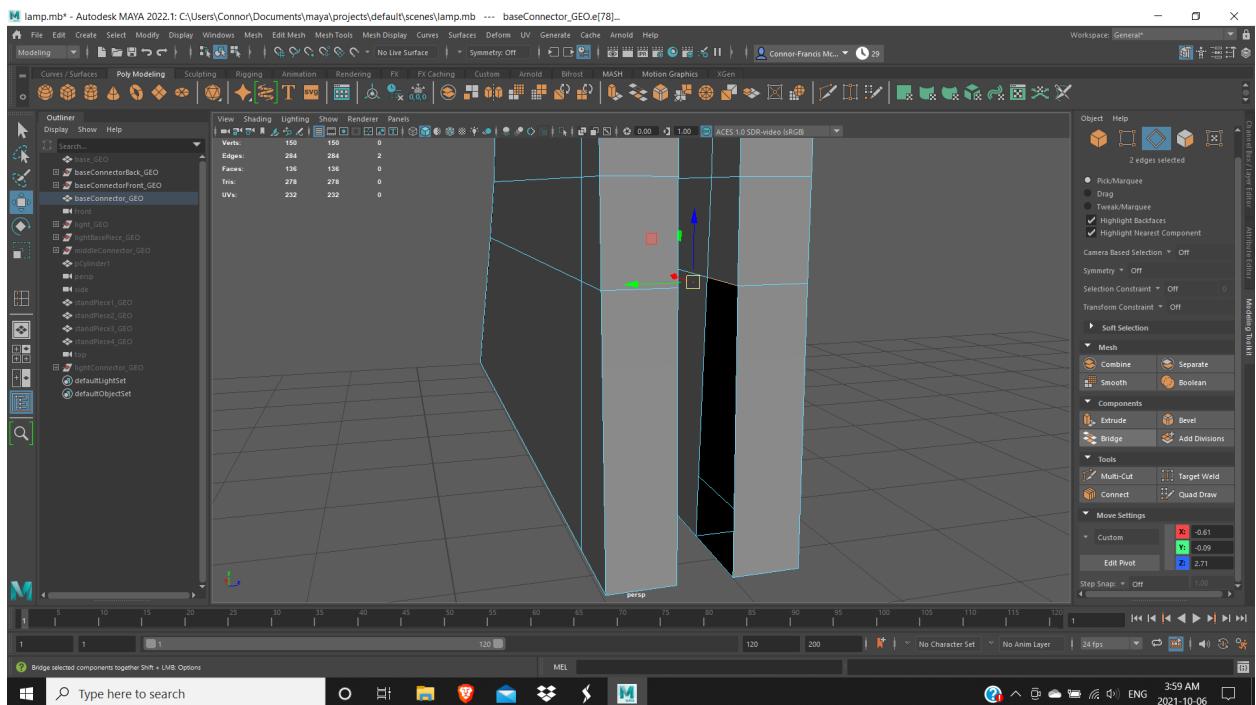
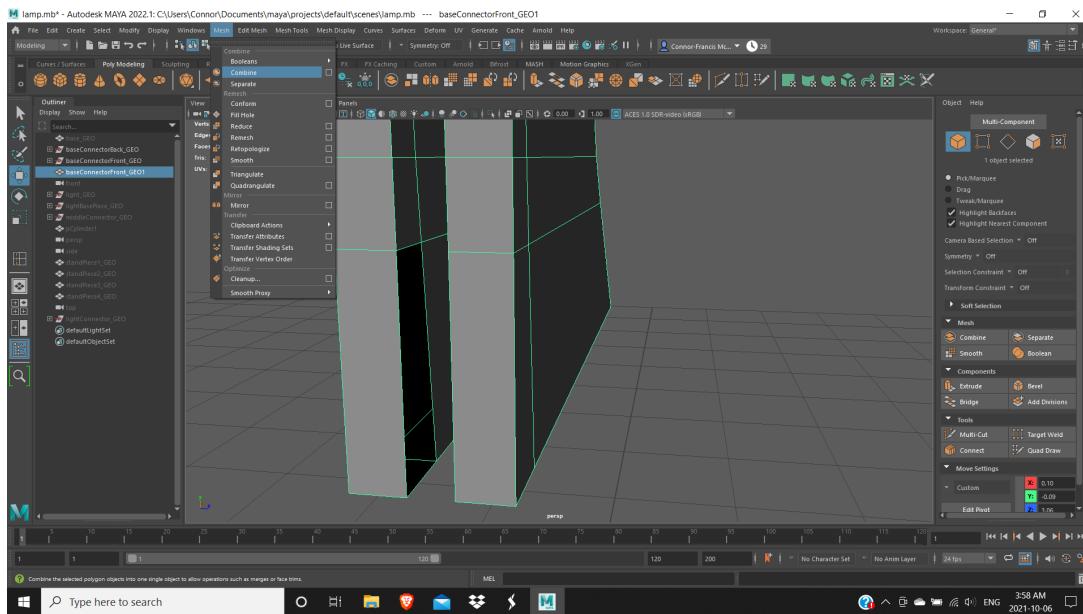
Next I build the middle part.

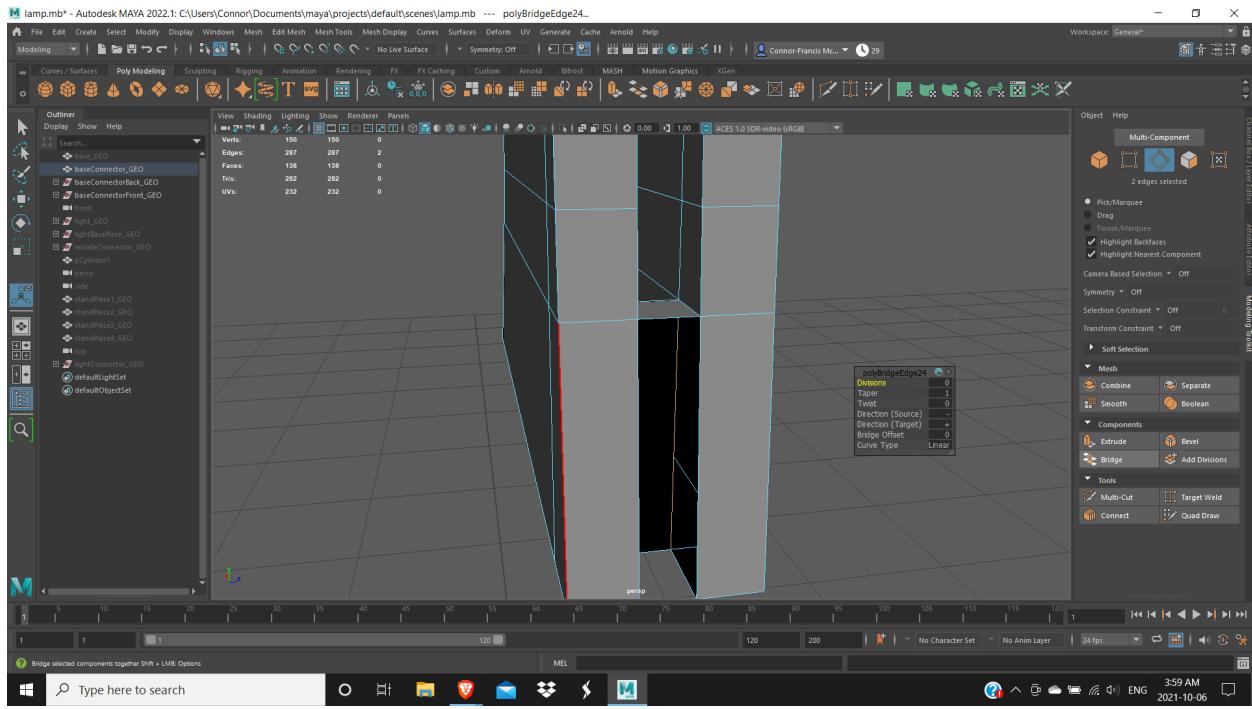
First the connector between the base and the middle part.



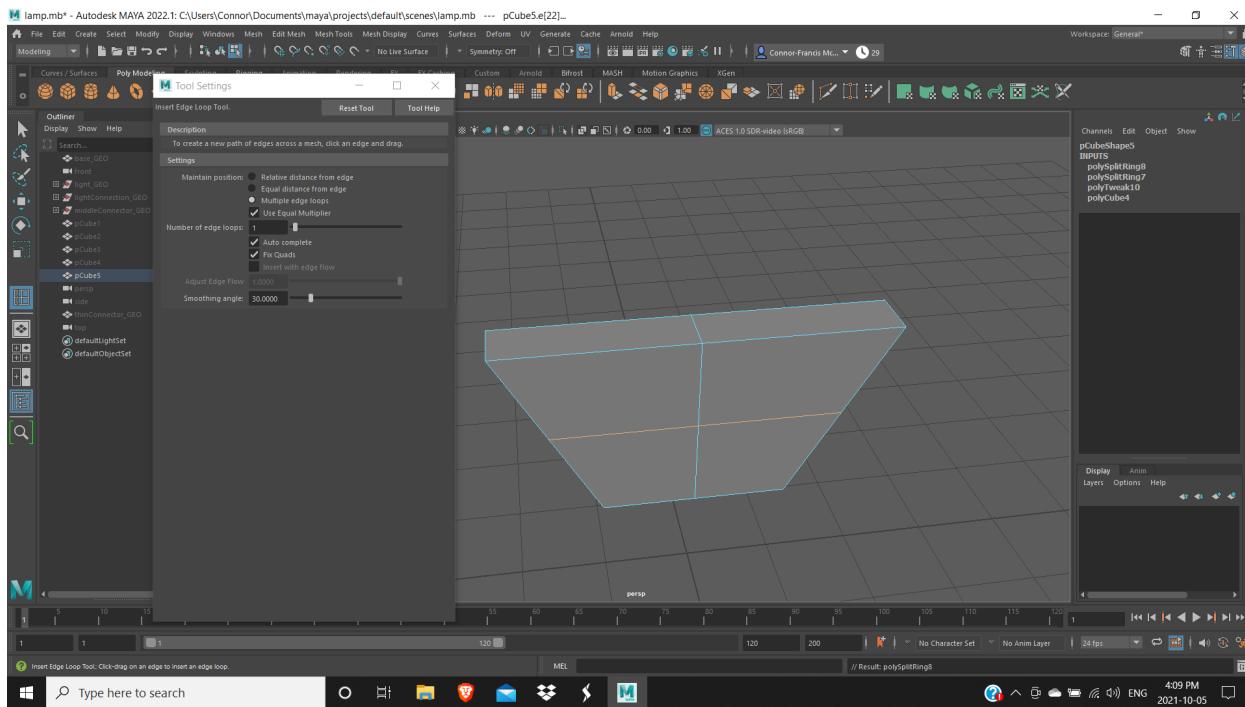
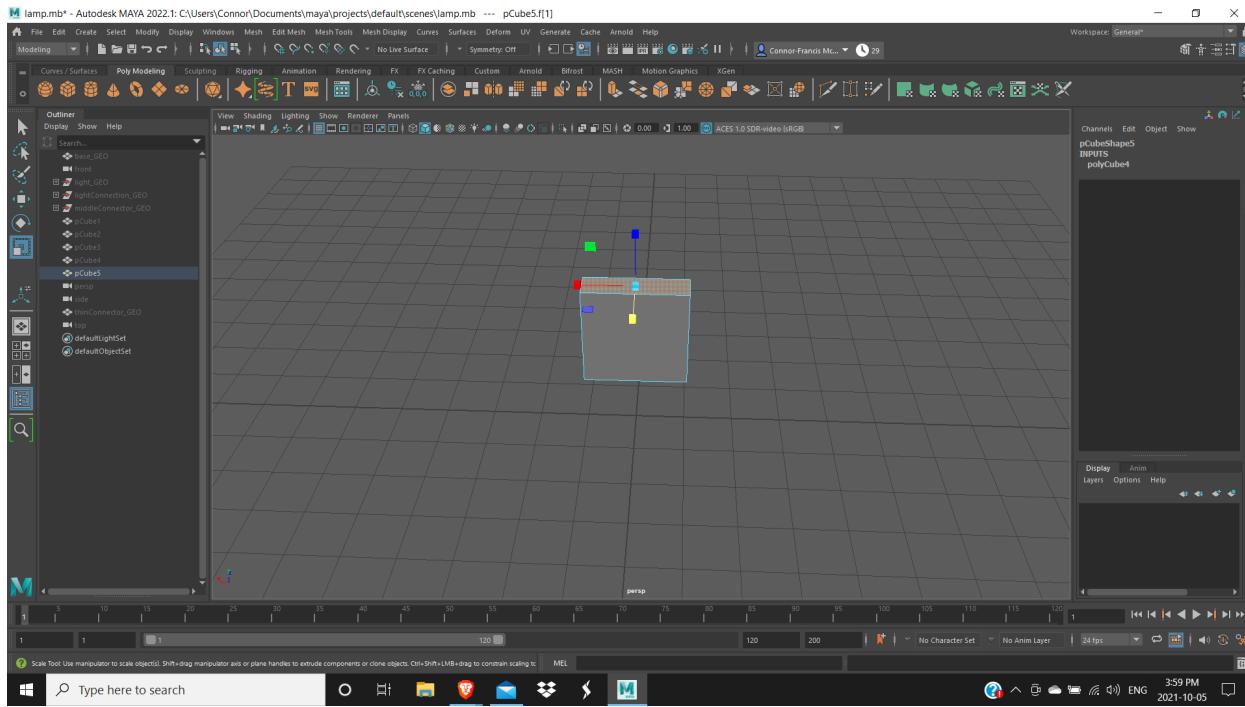


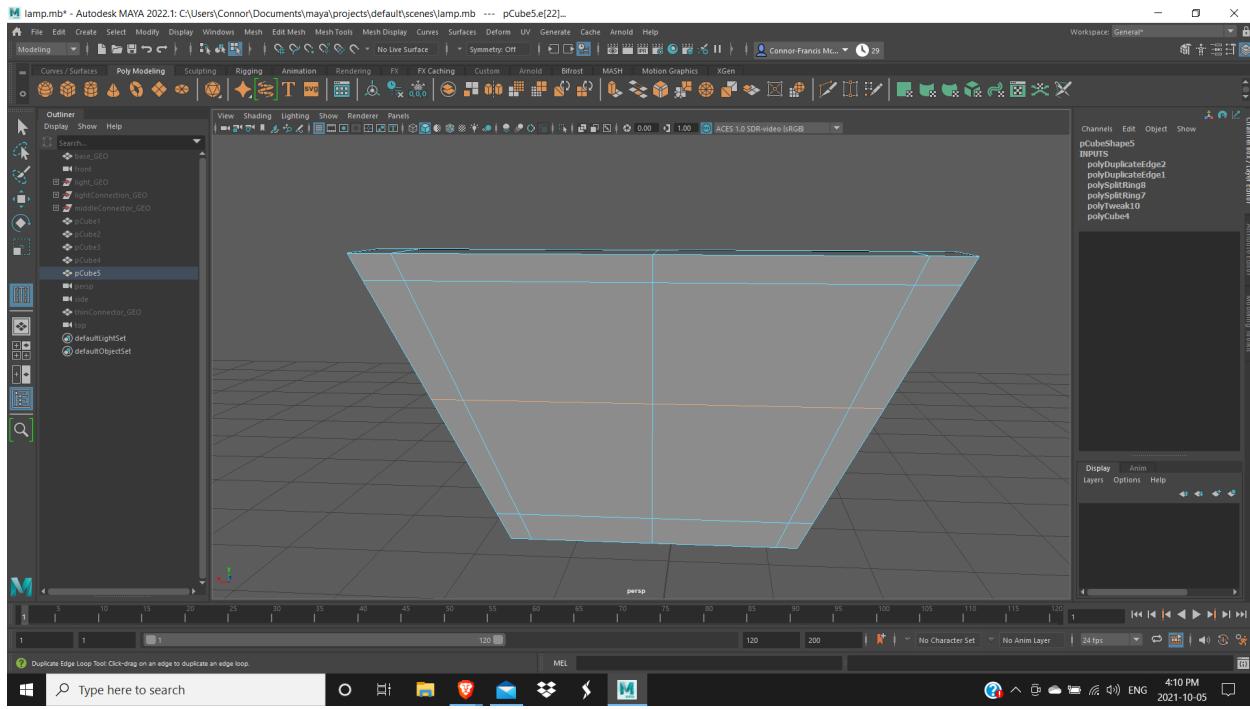
I then duplicated this object and placed them directly across from each other





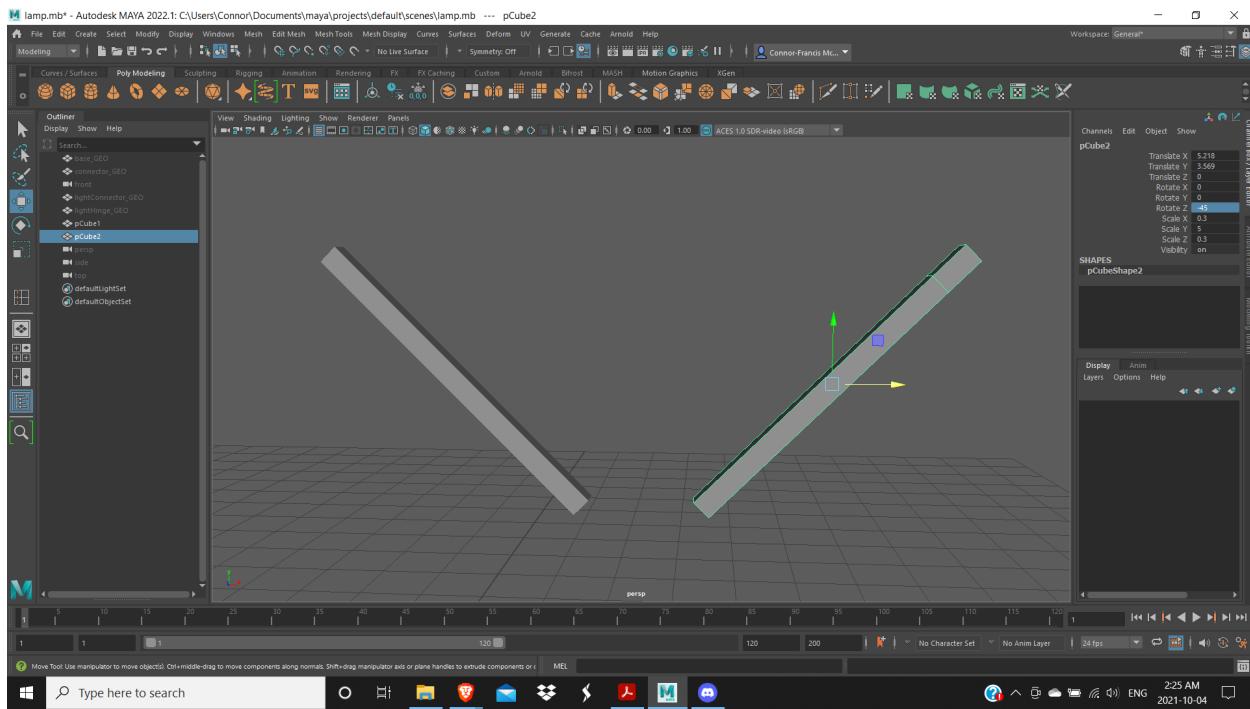
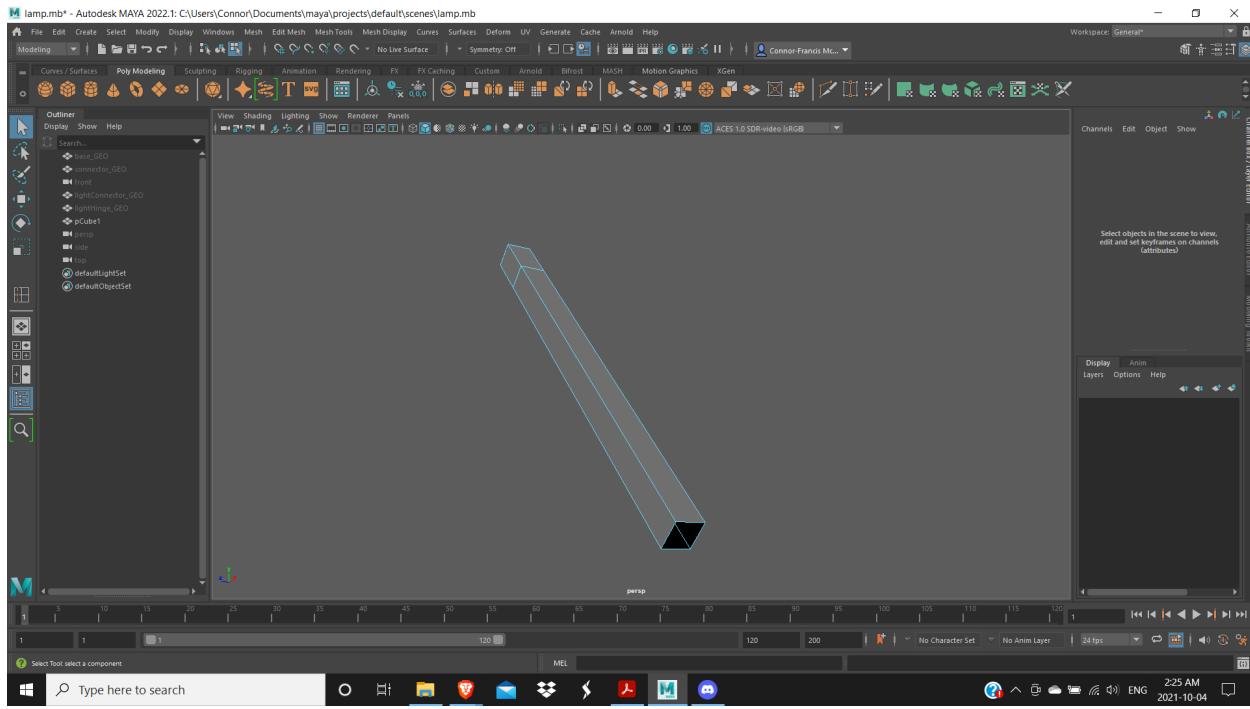
For the connector between the light and the middle part

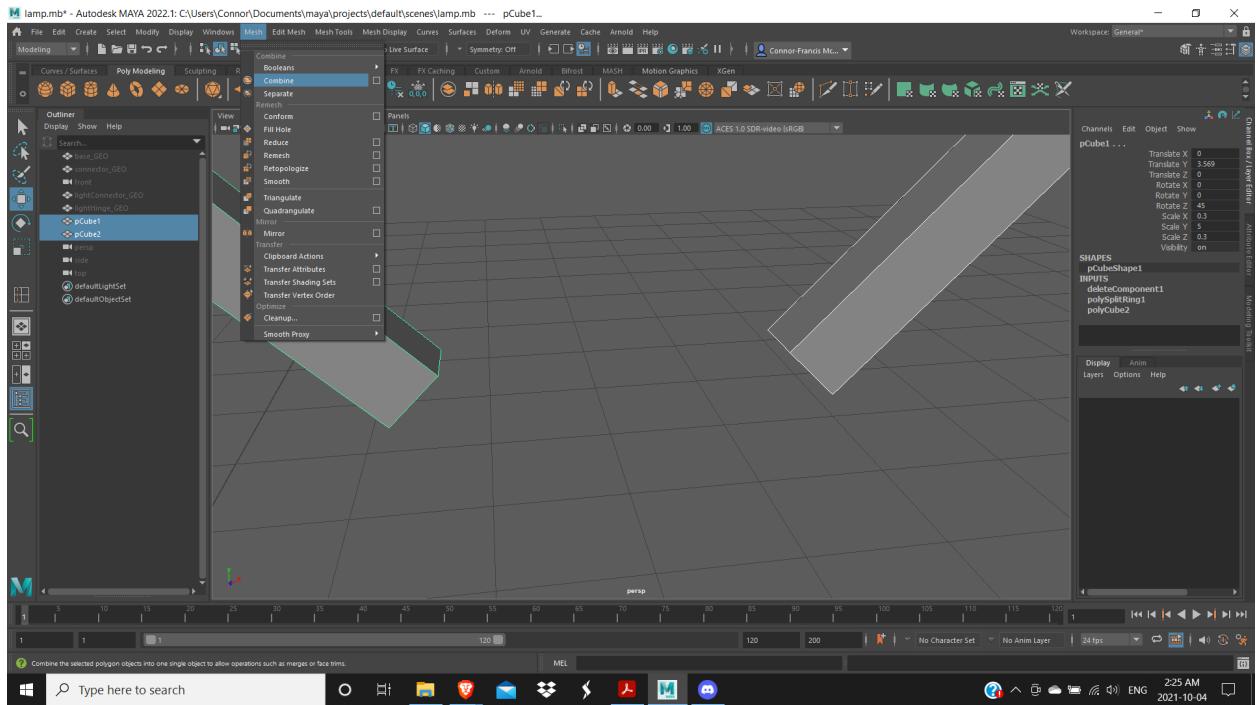


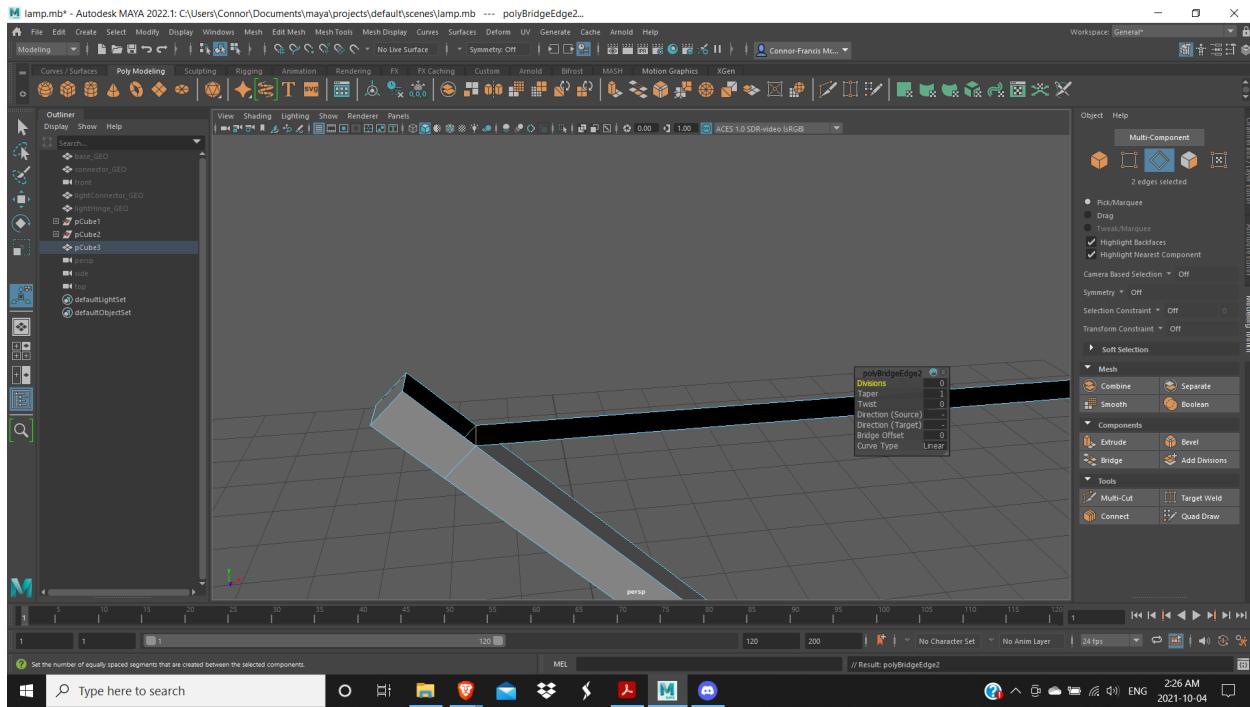
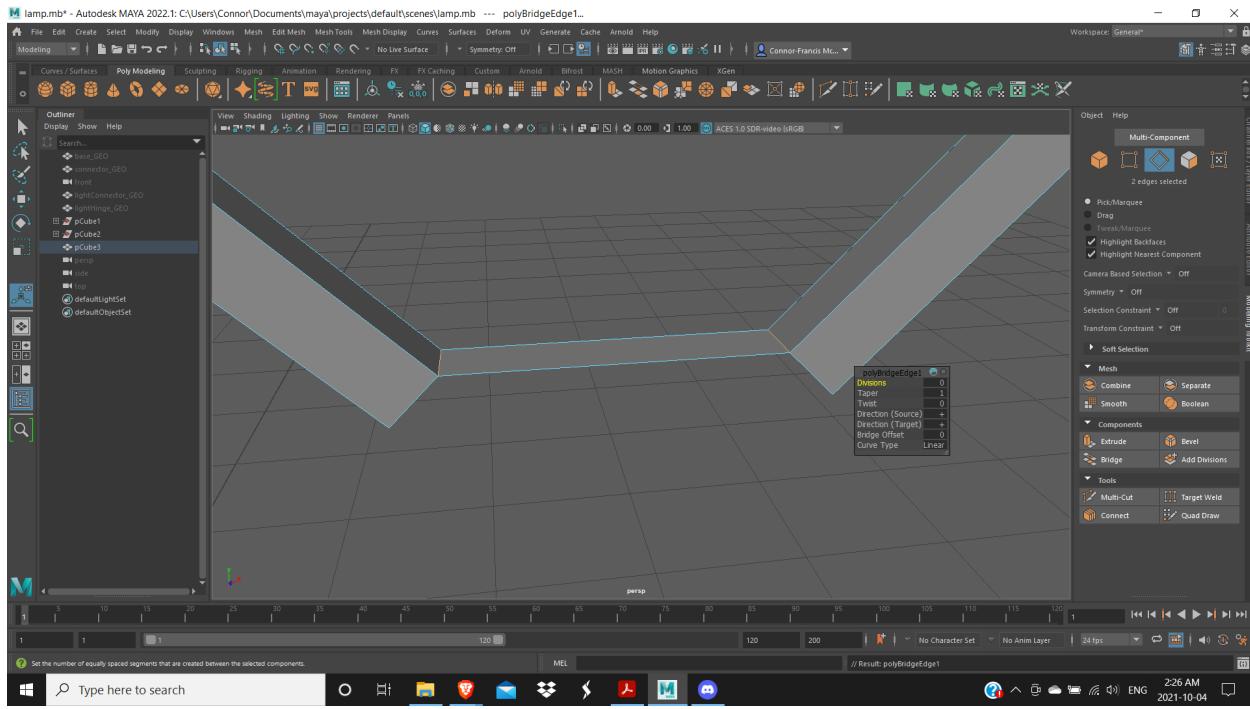


I then duplicated and placed them across from each other

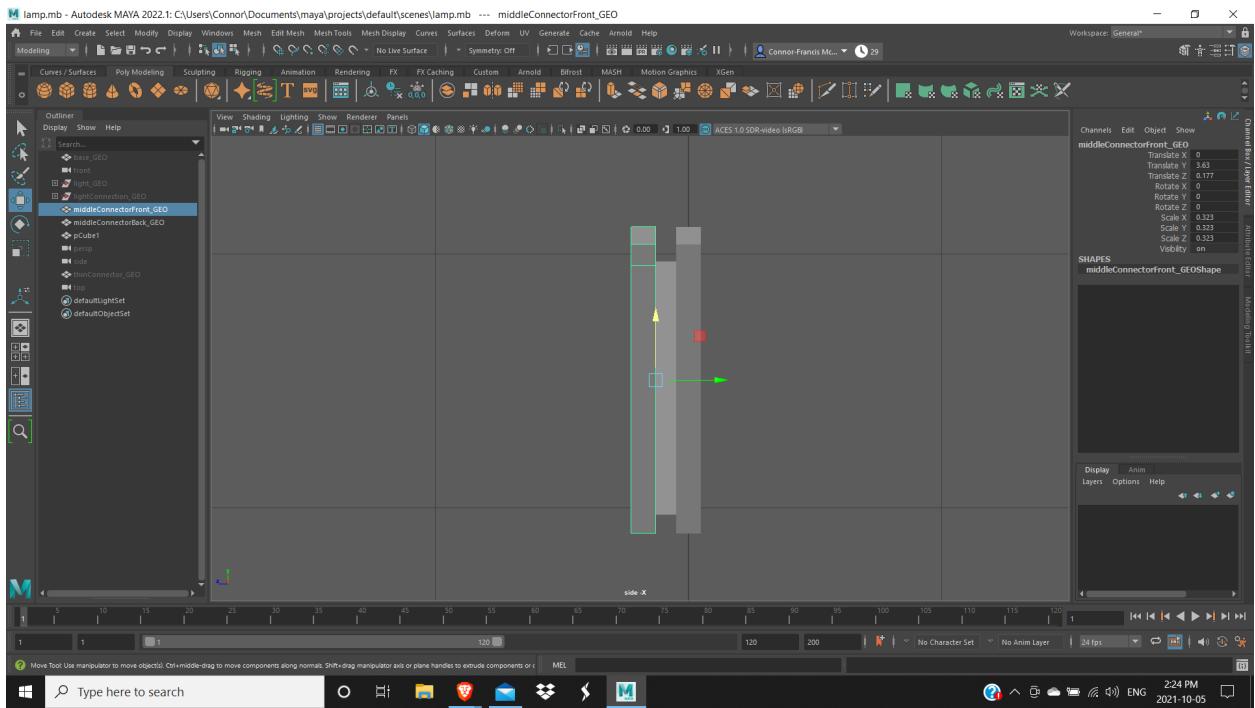
For the connector linking the two sets of bars together







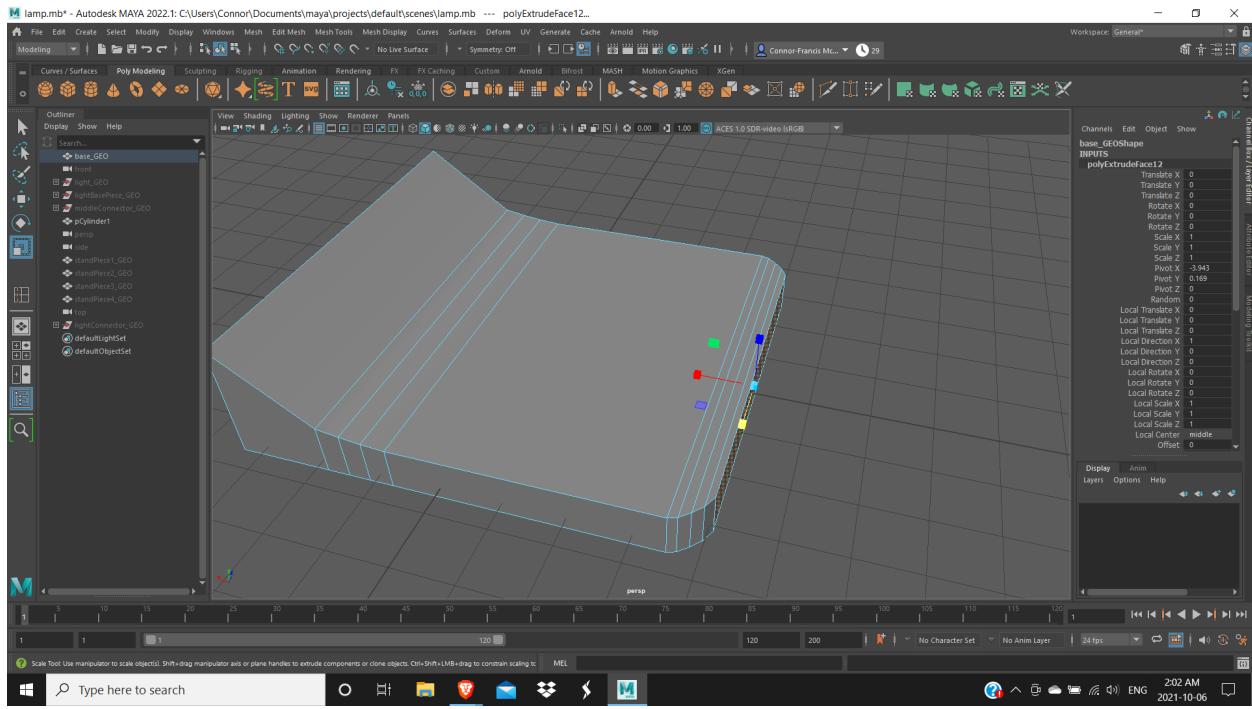
Once again I duplicated and placed them across from each other



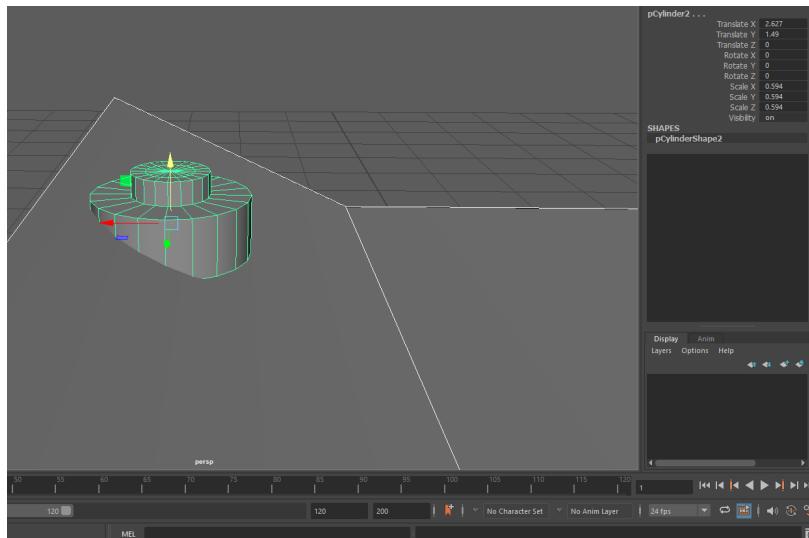
In order to find out how far apart they need to be for each connector I used the width of the bars to space them out using pivot points and snapping.

The bars connecting them were simple rectangles, their length is roughly the same length as the frame containing the light bulb.

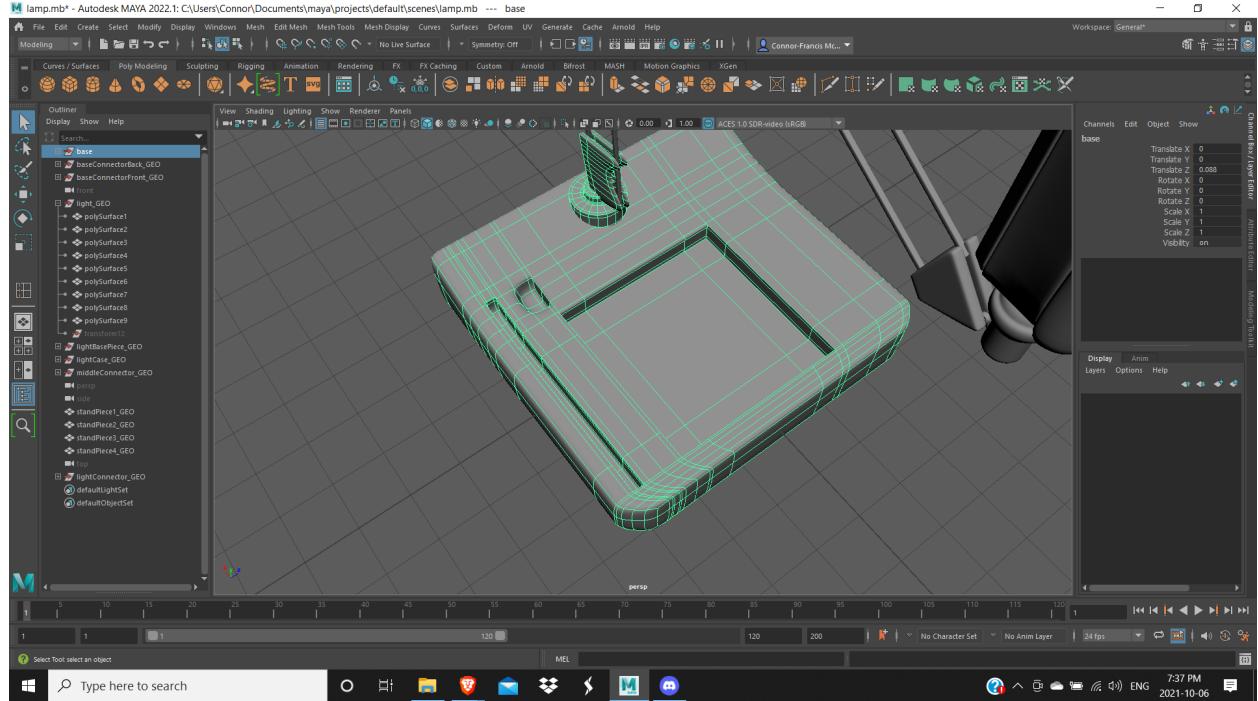
The base was the easiest part to build



The pivot piece was made with a cylinder, deleting the top and bottom faces, continuously extruding, and then using the merge to center.



I made the indents in the base by selecting every face except for the ones I wanted to be indented and extruding them upwards.



Then I started adding edge loops around all the objects in order to have an object that could be smoothed. Objects like the base needed to have their loops closer to the edges in order to maintain its square shape, whereas other parts like the connectors needed to have a rounded shape that required the additional edge loops to be further from the originals.

I ran into some troubles as I was carelessly adding/deleting edge loops and accidentally created ngons in the object.