Reflection

For my project, I wanted something with simple shapes that I could replicate. My main strategy was to use the same shapes because I would be able to reuse my code. If we had more time, I think I would explore creating other shapes, but since we were limited, I chose 3 different shapes. The paper towels and the wipes had a cylinder shape. The plane and the sponge would be squares. The torus was the only shape by itself. It was a little difficult trying to make the torus and the cylinder line up to create the paper towels. I mainly had to keep adjusting the scaling and the translation of the torus to match the cylinder. The wipes are made of two cylinders. I had to do this because I wanted to add the full label of the wipes to the cylinder. However, it would’ve been a bit difficult to edit a picture to get the image of the wipes all around. Instead, I took off the label from the wipes, laid it flat, and then took a picture. Then I took a picture of the wipes and edited the image to be thin because I need a sample of the yellow top and white body. Then I used repeat to have it wrap around the cylinder.

There are several different options a user has when moving the camera. The user can use the keys, WASD, to move forward, back, left, and right. The keys Q and E can be used to move the camera up and down. The left mouse button also moves the camera left, right, up, and down. The right mouse button can move the camera forward and backward.

Since the sponge and the counter are the same shapes, I used the same vertex, normal, texture coordinates, and index array. These arrays helped draw the squares and add texture. I made the colors different to match the texture. Then I change the scale and translation to mirror the scene I was creating. The scaling feature had the biggest impact to help me create the shape and size that I wanted. The cylinders have the same code but have been tweaked to add the correct texture for each object. For the materials of the objects, I used arrays. This allowed me to use the material arrays for all the objects rather than write it out multiple times. To keep things organized, I have the objects arranged in a certain order throughout the code. It starts with the sponge, wipes, paper towels, and then the counter. This applies to the functions that draw the objects, the order of the textures, and which objects are drawn first. The other functions are grouped together, such as the callback functions and the initializing functions. This will make it easier for a programmer to look at the code and know where to go if they would like to change something.