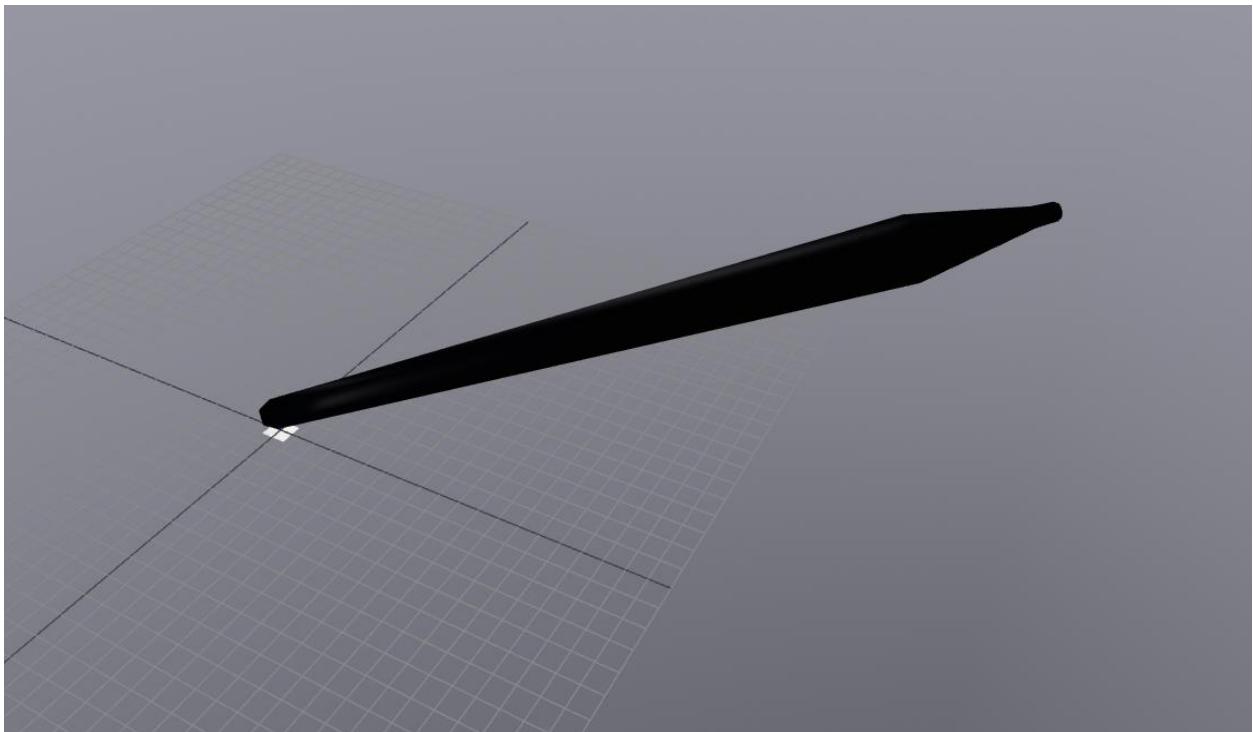


7.1)

a) The point contact model uses a box and 8 points slightly protruding at each vertex while the hydroelastic contact simply defines a box with a modulus of elasticity. The hydroelastic contact is enabled with the `drake:proximity_properties` tag.

b) The sugar box is very well approximated by a box, so using a mesh file would be a waste of computation.

c) The object I added is a pencil. The reason it is much larger than the table is probably because of a unit mismatch from the model on TurboSquid, so I could downsize it another program or just find another model that isn't so enormous. The physics still worked fine.



8.2)

a) $f_{\text{BcFinger_Cz}} > m \cdot g / (2 \cdot (1 + \mu_{\text{C}}))$

b) $f_{\text{BcFinger_Cz}} < m \cdot g \cdot \mu_{\text{A}} / (2 \cdot (1 + \mu_{\text{A}}))$

c) $1 \leq \mu_{\text{A}} \cdot \mu_{\text{C}}$

for $\mu_{\text{A}} = 0.25$, μ_{C} would need to be at least 4

for $\mu_{\text{A}} = 1$, μ_{C} would need to be at least 1

Survey) Mobile Base = Less Constraints