This repository contains a sample of my work in programming, CAD design, and writing.
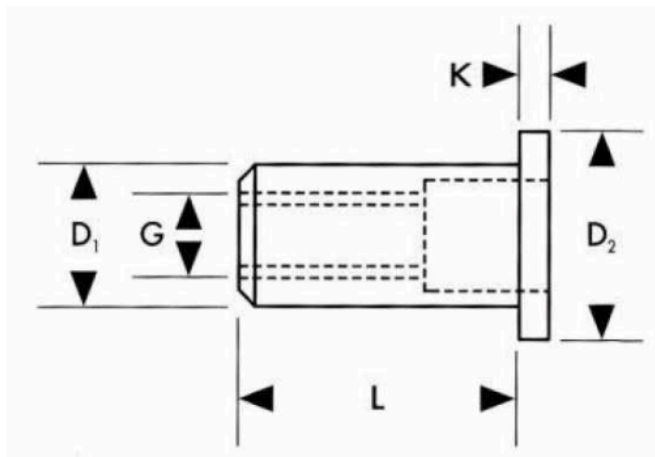
Calculator

I was tasked with programming a calculator website. I chose to program it in HTML even if I had no experience with it since the languages I knew could not help me accomplish the task. The calculator needed to be able to add, subtract, multiply, and divide. I had to write as little code and make it as readable as possible. I wrote this code in about 8 hours total.

Electronics Exercise

I was tasked with designing a simple alternating blinking circuit using Fusion 360 where two LEDs blink alternatively. I also had to design the the corresponding circuit board in Fusion 360.

Design Exercise

I was tasked with designing this mechanical part (see attached file) in Fusion 360 using the following dimensions: $K = 1.2$mm, $L = 13.0$mm, $G = 3.8$mm, $D_1 = 5.4$mm and $D_2 = 7.0$mm. I had to make "feasible assumptions" for missing measurements. I was also tasked with slicing the part in a printable position using CURA for a Prusa MK3 3D-Printer.

Luciferase

I had to write an article of the type "molecule of the month" from the PDB-101 website. I chose to write on luciferase. The target audience was the general public. The article was written in LaTeX.

Iron-Poryphrins

I had to write a research paper to inform and convince my audience on the best option of 3 different solutions to an engineering problem. For the latter, I chose synthetic oxygen carriers for therapeutic purposes. The target audience was intelligent but ignorant people. The article was written in LaTeX.