Assignment 3: Computational Linkage Design
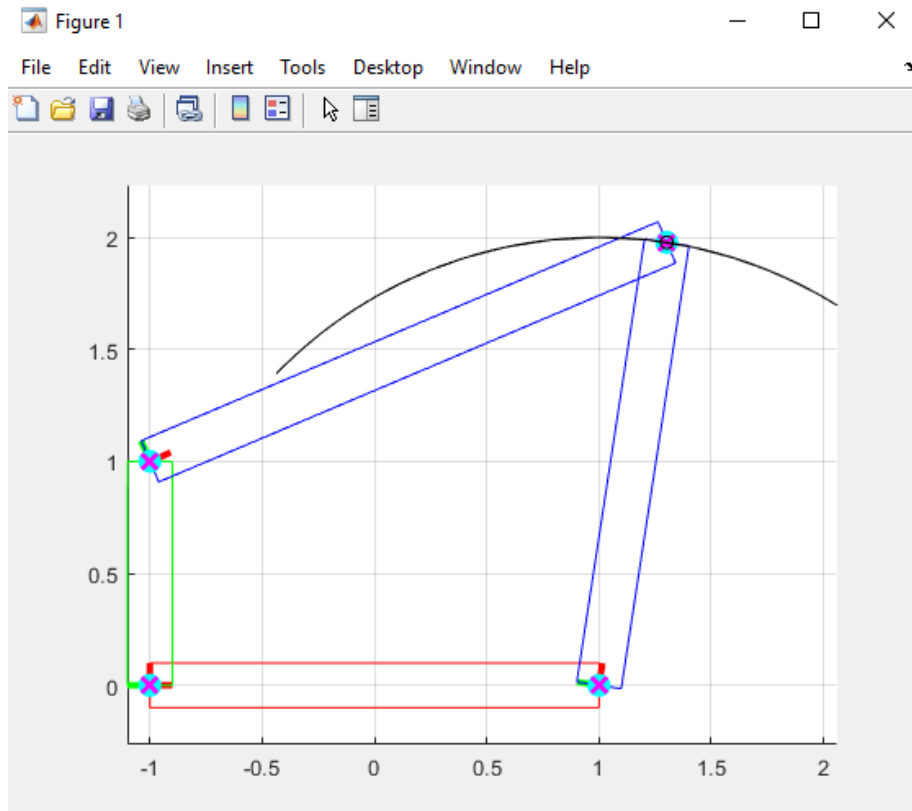
Screenshots

Fig 1. Drag-link linkage
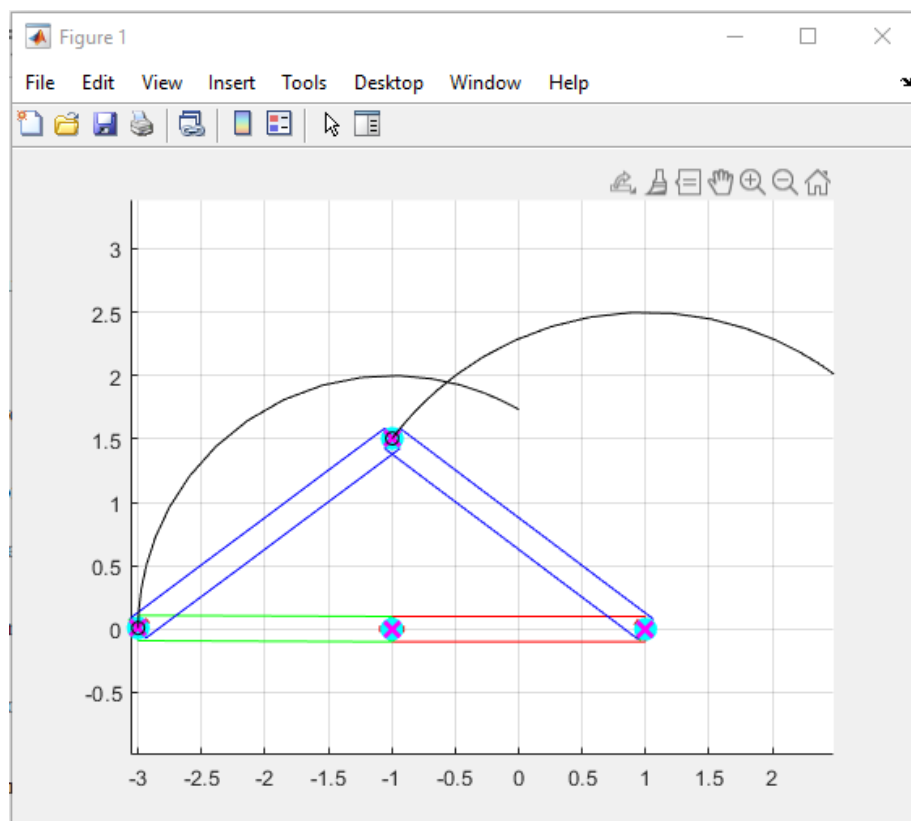

Fig 2. Double-rocker linkage
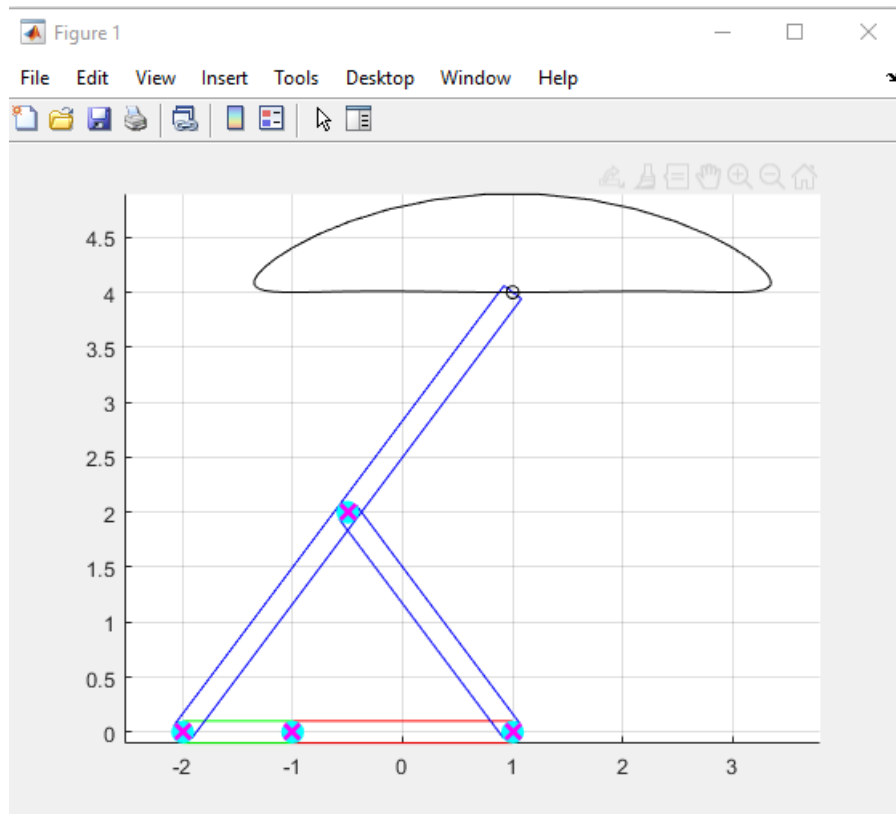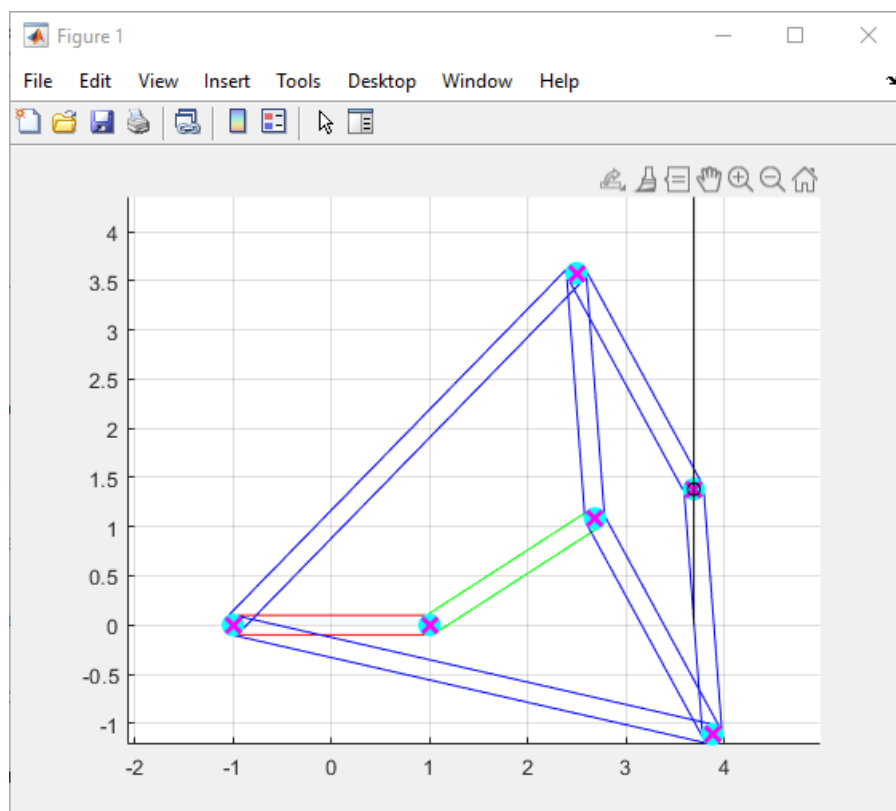
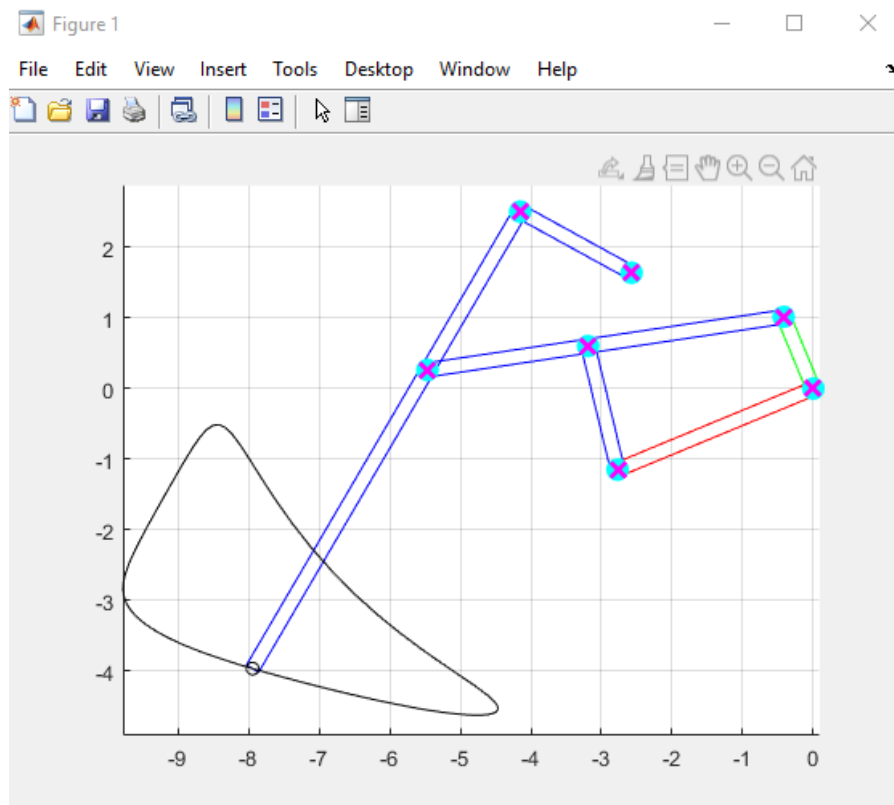Fig 3. Hoekens linkage

Fig 4. Peaucellier-Lipkin linkage

Fig 5. Klann linkage

Referenced materials:

- http://www.robotpark.com/academy/mechanisms-linkages-four-bar-hoekens-linkage/
- https://en.wikipedia.org/wiki/Peaucellier%E2%80%93Lipkin_linkage#:~:text=The%20artwork%20measures%2022%20by,accessible%20to%20the%20general%20public.
- https://math.stackexchange.com/questions/2354599/proof-of-the-peaucellier-lipkin-linkage
- http://g.recordit.co/oAnNgSuVvR.gif
- https://www.cut-the-knot.org/pythagoras/invert.shtml
- https://socratic.org/questions/how-do-you-convert-315-degrees-into-radians
- https://en.wikipedia.org/wiki/Klann_linkage
- Some magic number found online (for link length)

Problems:

- The oscillation simulation of the Peaucellier-Lipkin linkage is a bit broken if we want to get a full straight line. I set the parameter so that it can move only a half of the full path.

- May need to fix how I wrote the oscillation code

Extra credit:

- Unfortunately, no work has been done.

Comments:

- Magic numbers are a bit tricky to find. It's kind of labor work. Sadge :(