## Writing Basic Ev Sim + Plotting

## How to plot

* Save x and y in an array then plot
* After a time, change error to want to be at a different angle

## How to Sim

* For loop of increasing time, check all changing variables
* Have two separate errors, M1 error and M2 error. Track angle using that. Angle in rad = (mLeft- mRight / w. When positive, turning left.
* Do multiple while loops for each “section” of graph. I.E., one for each straight stretch
* Record two errors, one for distance y component of distance we need to travel (y is down track) and one for distance x component.
* 1/2 \* (V1 + V2) = v

## How to adjust pathing

* Calculate angle using diff between enc numbers and distance between wheels
* Accumulate error
* Calculate angle adjustment speed and time/distance left adjustment speed separately
* Set target point for angle adjustment to a point in line with real point, but far off in distance, to avoid sharp turns as you approach the actual target points. Only for use in steering use correction
* Velocity will be controlled based on some time component (regarding Target Time)
* Angle error will cause a velocity differential between m1 and m2.