9/23 In Class – First Animation

Building off our previous work in class:

1. **First Animation!** Use one of your old codes that has 2D projectile motion in it–or quickly modify one of your 1D codes to do 2D. Get a plot of y vs x for a projectile thrown with some initial velocity at some angle θ. Choose (find) some realistic numbers for throwing a ball in lab (If you got to it, problem 8 (first worksheet, suggested name `projectile.m`) would be a good start.)

   Download the script file that I discussed in class (you can get it from class web page, in the calendar under today's date), and use that to make a red dot travel on your plot of y vs x for the projectile.

   Question: Is the time scaled to reality? How does that work?

   Show me!

2. **The Simple Pendulum** A mass m on the end of a string of length ℓ is pulled up to some initial angle wrt the vertical and released. Work on the white boards in groups to solve for x and y in terms of r (ℓ) and θ.

   (a) Write a script file that includes a plot of x vs t and y vs t on the same figure (two different panels.)

   (b) Then plot y vs x on a new figure and animate it. Is it what you expect? Show me!

3. Homework (or in class if there's time.) Make the script file all nice and turn it in to me.