

# Assignment 10

Math 528L Fall 2021

Due November 23rd

## 1 Double Pendulum

- (a) Solve the double Pendulum using Rk4.
- (b) Animate the motion so that it plots as it solves
- (c) Simultaneously animate two solutions with a small change in the initial conditions. At least animate to the point where they diverge and make sure your step size is small enough that the error is not from numerical error but the sensitivity of the system.

Some references to look at :

<https://www.youtube.com/watch?v=pEjZd-AvPco>

[https://en.wikipedia.org/wiki/Double\\_pendulum](https://en.wikipedia.org/wiki/Double_pendulum)