4 March 2016

* All notation follows the notes from class
* These files were saved under
  + MATLAB Version: 8.6.0.267246 (R2015b)

To use the codes

* Run file: inverted\_pendulum\_Feb28\_2016.m first. This sets up variables in the workspace for use with the Simulink file.
  + You can change the desired pole locations to obtain different state feedback gaind
  + however if you make modifications to the system parameters the A and B matrices are incorrect and will need modification before finding the gains K
* Open: inv\_pen\_IC\_compare\_mar2016.slx and run
  + The linear and nonlinear models are coded in the subsystems
  + Observe waveforms if you change the pendulum’s initial condition with the slider – notes are provided for some judgement on values
  + The initial velocities of pendulum and cart are set to zero and the cart position is set to 10. These are in the subsystem blocks