EET 3732 – CONTROL SYSTEMS

MATLAB Project # 3

Objective:

Write a script to create magnitude and phase Bode plots of a user-given transfer function for a control system.

Programming Steps:

1. Write down your name, date, course name, and project number at the beginning of your script as comments.
2. Explain the objective of your program as comments.
3. Ask user to enter the range of the angular frequency ω over which frequency response will be plotted.
4. Ask user to enter the transfer function of the control system *H(s)* by entering coefficients of the numerator of *H(s)* as a vector and coefficients of the denominator of *H(s)* as another vector.
5. Calculate the magnitude and phase (in degrees) of the transfer function.
6. Plot *magnitude (dB)* and *angle (degrees)* vs. semilog ω axis either in two separate figures or two sub-plots in the same figure.

Based on your interval, your plots can be quite accurate and not as approximate as we usually discuss in the theory.

Note: Do not use any built-in Bode plot function.

[*Useful functions: polyval; semilogx*]