Glossary of Matlab commands

Matrix generation
- Definition between braces [ ]
- Line separator " ; "
- Column separator "," or space

Special matrices
- ones(n,m): matrix with n rows and m columns, filled with 1
- zeros(n,m) : filled with zeros
- eye(n): identity matrix of order n

Operations on an A matrix
- size(A): dimensions in number of rows and columns
- inv(A) : inverse
- rank(A): rank
- trace(A) : trace
- det(A): determinant
- eig(A): eigenvalues

Transfer function
- h = tf(num,den): defines the transfer function "h" with numerator "num" and denominator "den", num and den being defined as a sequence of coefficients in decreasing powers of s (definition in vectors)
    - example:
    - num = [1 0]
    - den = [2 3 0 1]
    - h = tf(num,den) will give : $h=\dfrac{s}{2s^3 + 3s^2 +1}$
- zero(h): gives the roots of the numerator of h
- pole(h): gives the roots of the denominator of h
- Bode(h), Nichols(h), Nyquist(h): plot Bode, Black-Nichols or Nyquist diagrams
- wmag=(min,max): specifies pulsation range for plots
- Bode(h,wmag): plot the Bode diagram over the specified range
- Step(h, tfin): traces an index trial between 0 and "tfin".
- Grid on: displays the grid (or Black's abacus) on plots
- Legend on: brings up the legend
- Feedback(Sys1,Sys2): defines a looped system with direct chain Sys1 and return chain Sys2.