CHECKPOINT #1

ECEN314 – Signal and Systems / ECEN420 - Linear Control System   July – 2017

1. Consider

$$A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix} \tag{1}$$

$$B = \begin{bmatrix} 4 & 3 \\ 2 & 1 \end{bmatrix}, \tag{2}$$

find:

   (a) Matrix multiplication.

   (b) Element-wise multiplication.

   (c) Dot product considering the first column of each matrix.

   (d) Kronecker product

   Remark: Do not use special functions of Matlab (prod,kron,...) in this exercise.

2. Find a solution to the following set of equations

$$x + 2y + 3z = 12 \tag{3}$$
$$-4x + y + 2x = 13 \tag{4}$$
$$9y - 8z = -1 \tag{5}$$

3. Using LU decompositon find a solution to the following set of equations

$$x + 7y - 9z = 12 \tag{6}$$
$$2x - y + 4z = 16 \tag{7}$$
$$x + y - 7z = 16 \tag{8}$$