**Lab 1**

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**#1. Creat a vector.**

A = [ 1 2 4 7]

B = [ 3 4 6 7]

**#2. Create a matrix.**

B33 = [1 2 3;6 7 8; 10 11 14]

B32 = [1 2;4 6;7 0]

**#3. create a 5x1 zero matrix. and Random matrix of 1x5.**

C1 = zeros(5,1)

C2 = randn(1,5)

**#4 Transpose of matrix:**

D1 = [1 2 3; 4 5 6;7 8 9]

DT = transpose(D1)

DT1 = D1'

**#5a. Inner product**

D = [1 2;3 4]

E = [5 6;7 8]

F = sum(dot(D,E))

**#5b cross product**

H = D\*E

**#5c inverse of matrix.**

D1\_inv = inverse(D1)

**#6 Compute the element wise multiplication of a matrix and a scalar.**

scaler = 2.456

G = scaler\*D1

**#7 Concatenate two matrices:**

C12 = [1 1;3 5]

C23 = [5 7;8 4]

C = [C12 C23] #side by side addition of matrix

C1 = [C12;C23] #up and down addition of matrix

**#8 Create a vector of complex numbers.**

com = A + j\*B

**#9 Multiply a row of a matrix with an element of that same matrix.**

H = D1(2,3)\*D1(2,:) #multiply element on 2 rows and 3 column multiply with second row or D1.

H1 = B33(1,2)\*B33(3,1:3)

**#10 Generate a vector of values ranging from 0 to 500 with 100 elements.**

J = 1:5:500