AHSANULLAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

DEPARTMENT
OF
ELECTRICAL AND ELECTRONIC ENGINEERING

LAB REPORT

COURSE NO	: EEE 2226
COURSE NAME	: Numerical Technique Laboratory
EXPERIMENT NO	: 01
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Submitted by :

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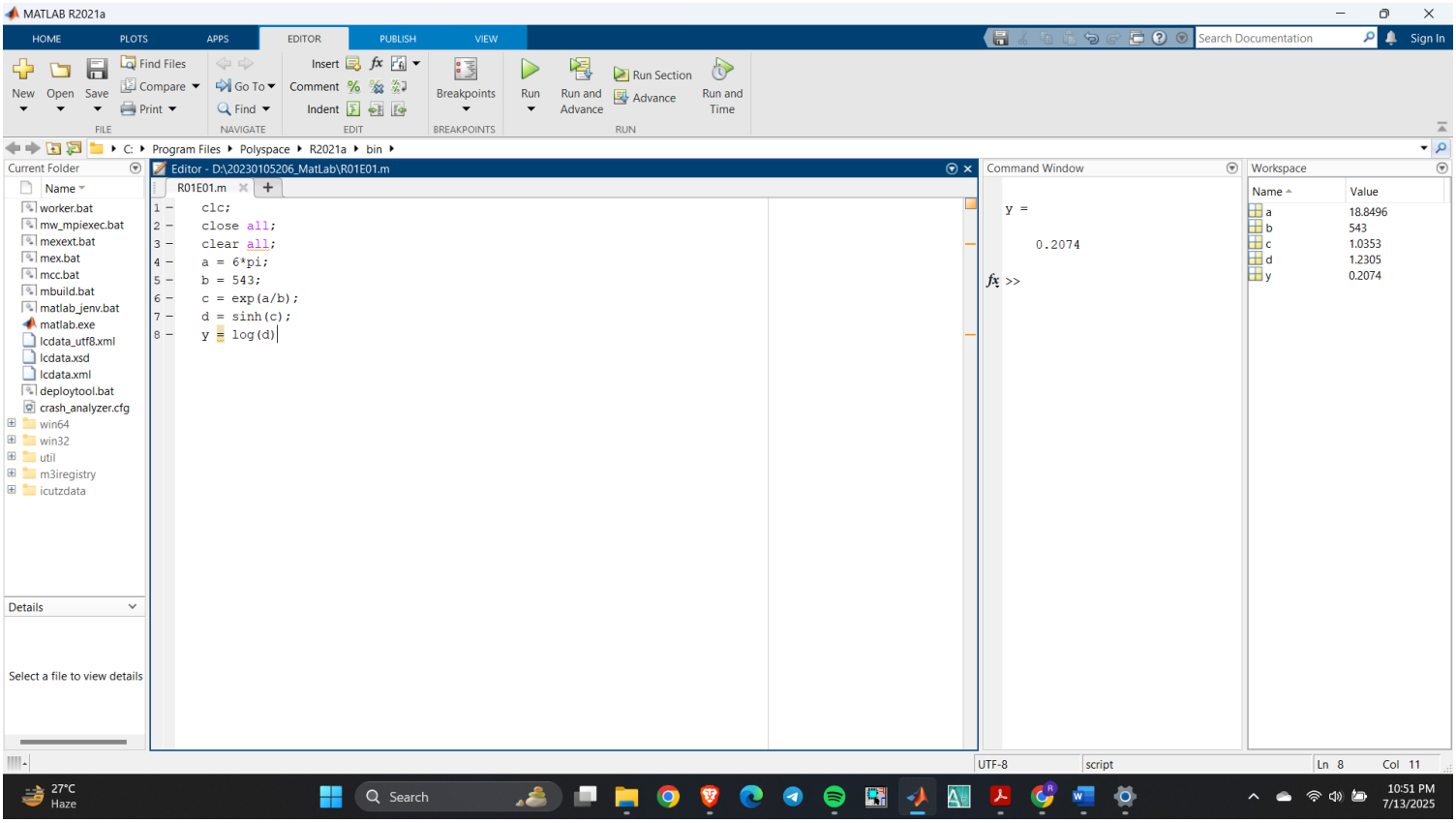
Section	: D(2)

Exercise 1. Find the value of $y = \ln(\sinh\left(e^{\frac{6\pi}{543}}\right))$

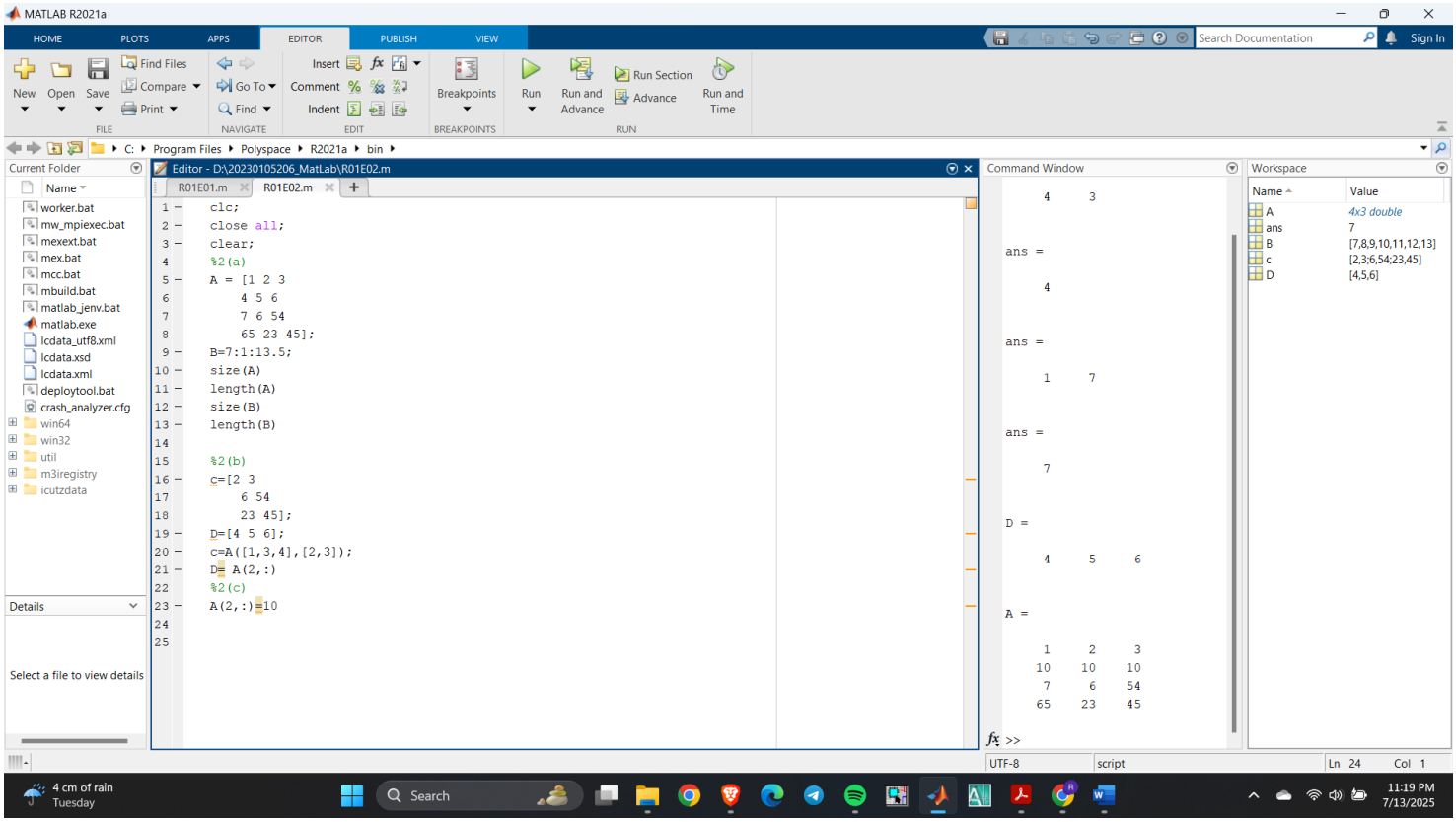


Exercise 2:

(a) Find the size, and length of following matrices
A=[1 2 3; 4 5 6;7 6 54; 65 23 45]
B=7:1:13.5

(b) Determine submatrix C and D from A.
C=[2 3; 6 54; 23 45]
D=[4 5 6]

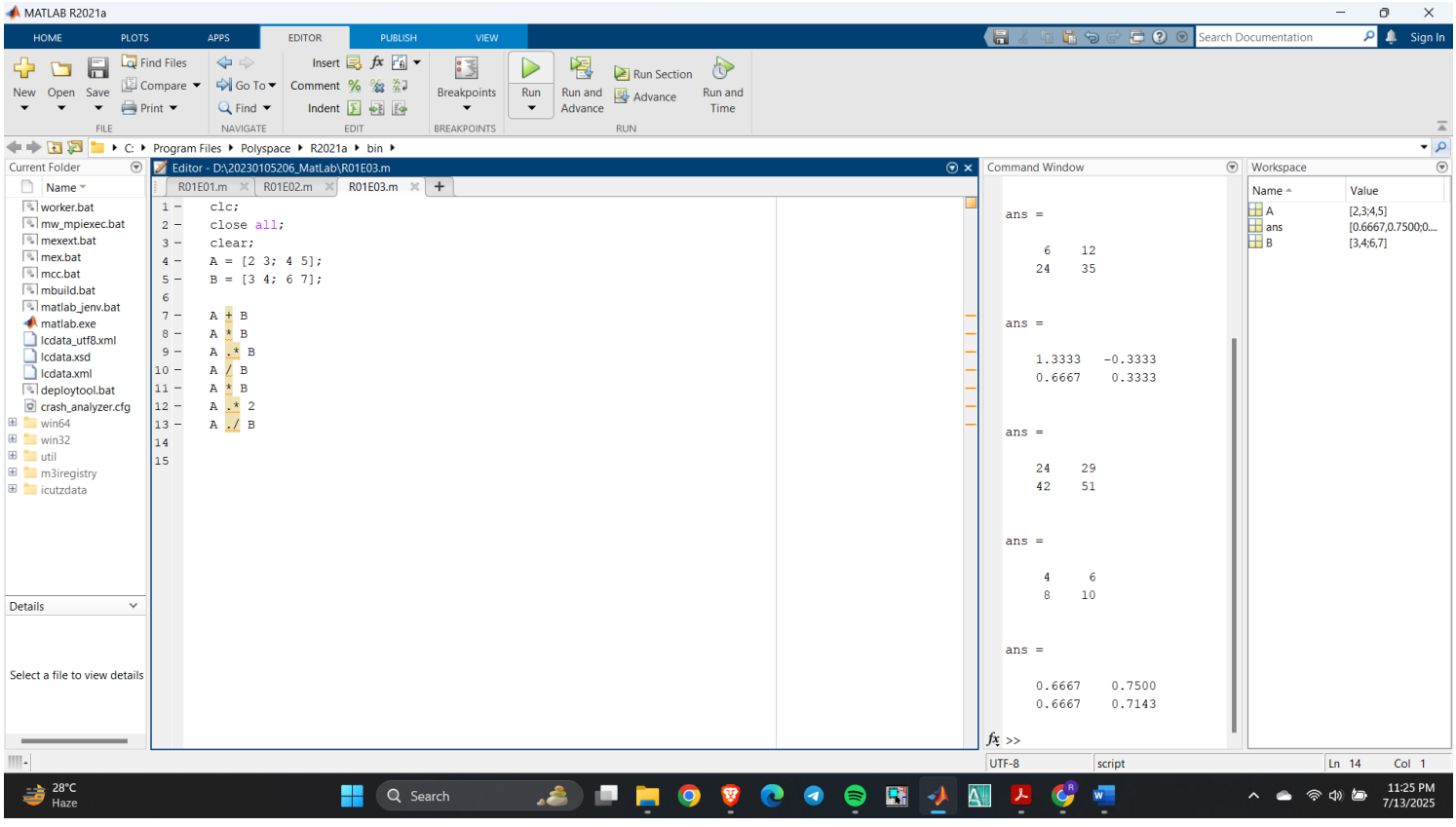
(c)Replace all the value of 2nd row into 10 and display the matrix A.



#Exercise 3.

A=[2 3; 4 5]; B=[3 4; 6 7];

Find A+B, A*B, A.*B,A/B,A\B, A.^2,A./B



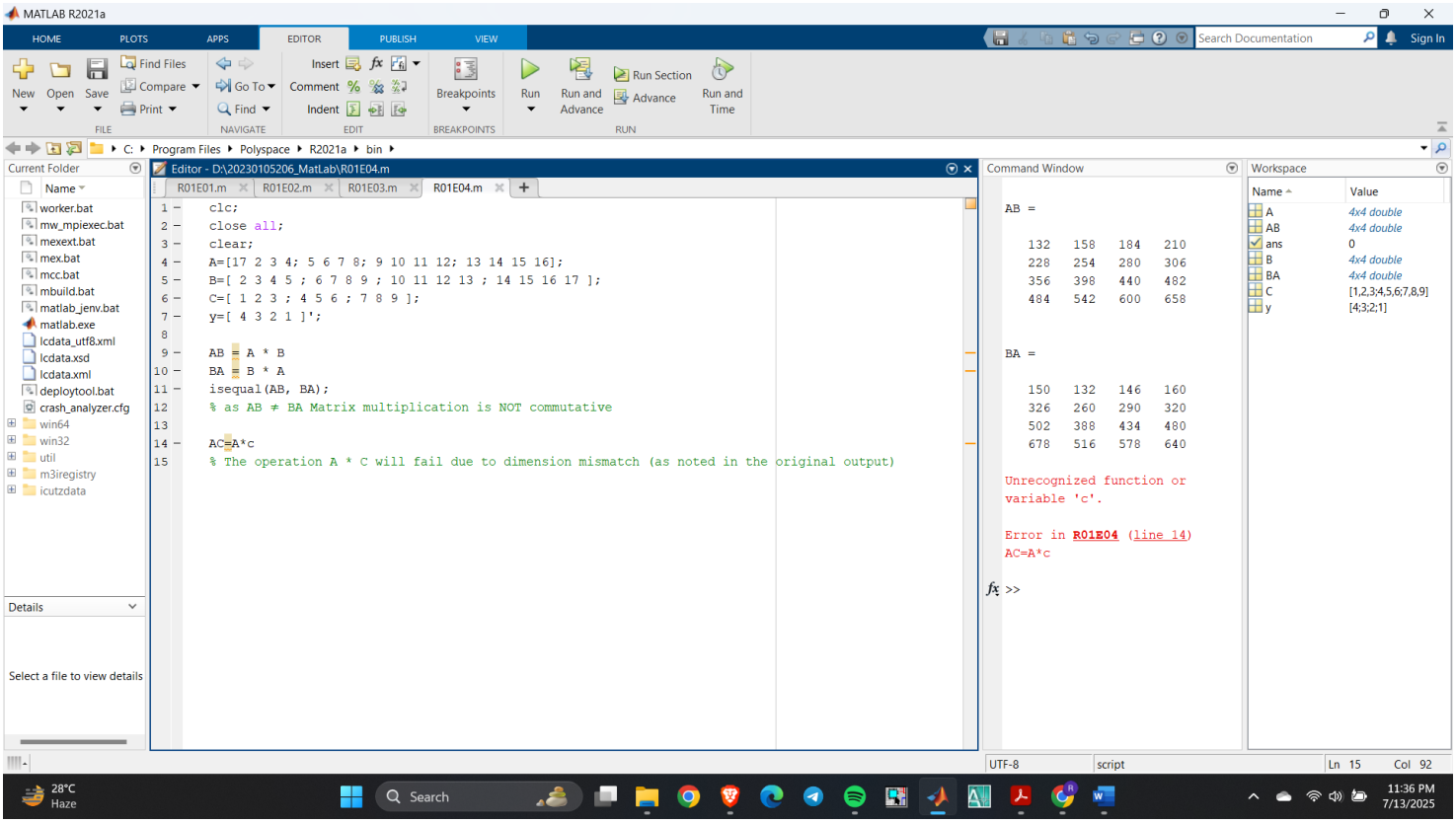
Exercise 4.

Define the matrices
A=[17 2 3 4; 5 6 7 8; 9 10 11 12; 13 14 15 16]
B=[2 3 4 5 ; 6 7 8 9 ; 10 11 12 13 ; 14 15 16 17]
C=[1 2 3 ; 4 5 6 ; 7 8 9]
y=[4 3 2 1]'

Note the transpose ' on the y-vector which makes y a column vector.

a) Compute AB and BA. Is matrix multiplication commutative? 3

b) Compute AC. Why do you get an error message?



Exercise 5 .

(a) Solve the following system of equations:

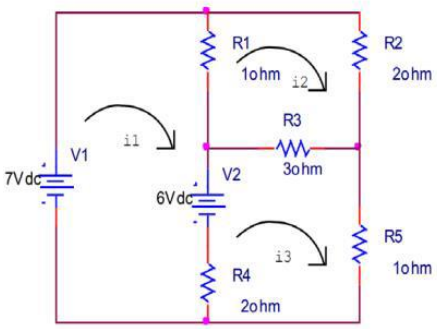
$17x_1+2x_2+3x_3+4x_4 = 4$

$5x_1+6x_2+7x_3+8x_4 = 3$

$9x_1+10x_2+11x_3+12x_4 = 2$

$13x_1+14x_2+15x_3+16x_4 = 1$

(b) Solve the following circuit to find i1, i2, and i3.



Ans: i1= 3 amp, i2= 2 amp, i3= 3 amp.

For (b) using mesh analysis,

Loop_1: 3i1 - i2 - 2i3 = 1

Loop_2: i1 - 6i2 + 3i3 = 0

Loop_3: 2i1 + 3i2 - 6i3 = - 6