Basic operations in Matlab

EE 201

Session Agenda

☐ Contact before work   5 min.

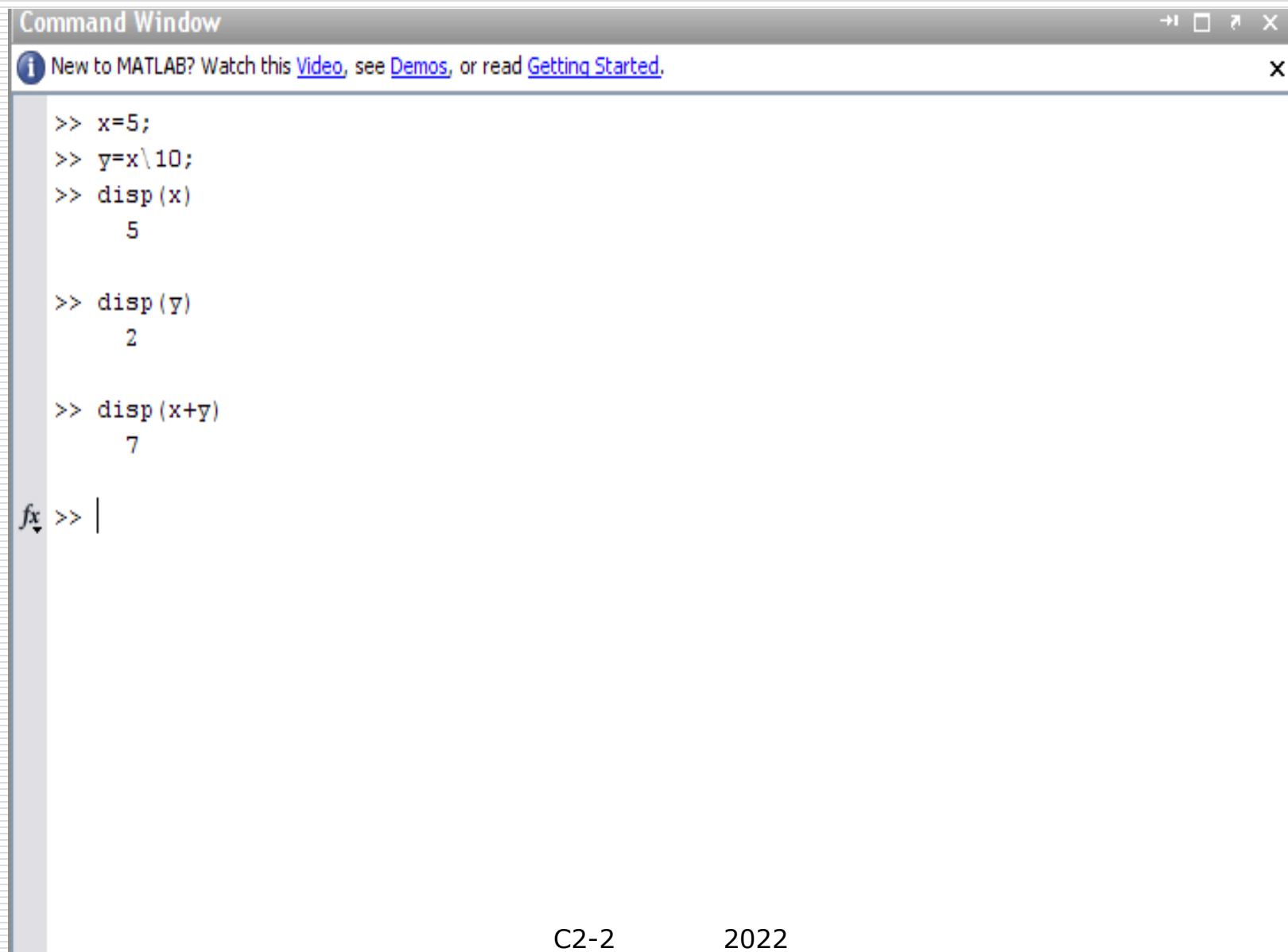☐ MATLAB basic operations   70 min.

Class Learning Objectives

☐ Achieve Comprehension LOL of Matlab basic operations.

Input/output commands

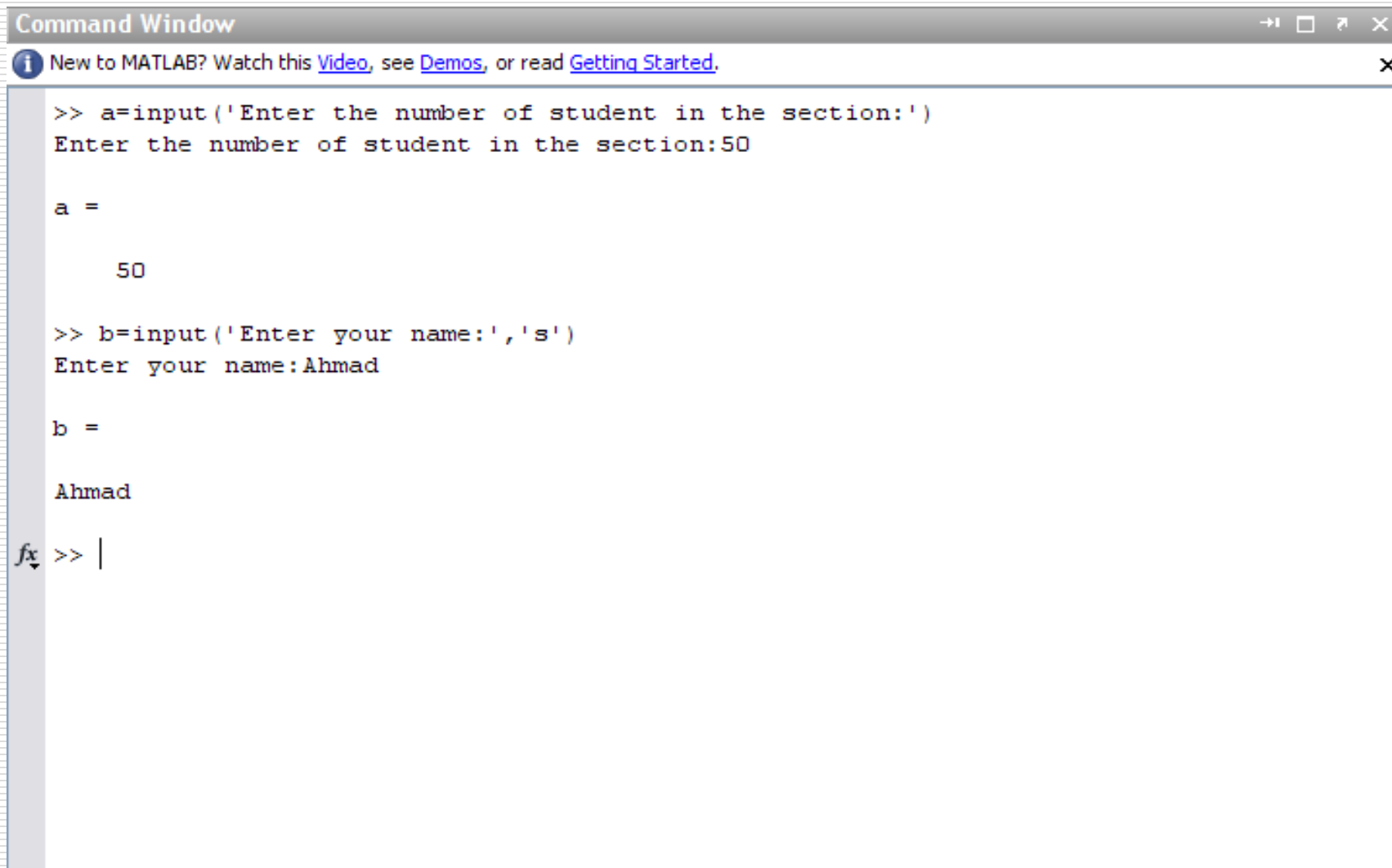| Command	Description
disp(A)	Displays the contents, but not the name of the array A.
disp('text')	Displays the text string enclosed within quotes.
x = input('text')	Displays the text in quotes, waits for user input from the keyboard, and stores the value in x.
x =input('text','s')	Displays the text in quotes, waits for user input from the keyboard, and stores the input as a string in x.

Example

Example

New to MATLAB? Watch this Video, see Demos, or read Getting Started.

```
>> a=input('Enter the number of student in the section:')
Enter the number of student in the section:50

a =

    50

>> b=input('Enter your name:','s')
Enter your name:Ahmad

b =

Ahmad

fx >> |
```

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More Examples

☐   a=100

 a =

   100

☐   >> disp(a)

100

☐   disp(['a = ',num2str(a)])

a = 100

☐   fprintf('a = %d',a)

a = 100>>

☐   fprintf('a = %d\n',a)

a = 100

☐   r= 'I Am Studying Engineering'

   r =

   I Am Studying Engineering

☐   >> disp(r)

   I Am Studying Engineering

☐   disp(' I am Studying Engineering')

   I am Studying Engineering

❑   Reg_No=input('enter the Reg No of Student =')

enter the Reg No of Student = 134561

Reg_No =

   134561

❑   Name= input(' Enter your Name =','s')

      Enter your Name = Mahendiran

   Name =

   Mahendiran

For Practice
Inputs

- [ ] Prompt the user to enter the value of Temperature(T) and Velocity(V).

- [ ] Asks the user to input the radius and height of a cylinder.

- [ ] Prompts the user to enter the capacitance of 2 capacitors

- [ ] Prompts the user to enter the inner and the outer radius of a torus

- [ ] Prompts the user to enter the name of the students in the variable Name_Student.

For Practice
Outputs

☐ **Display the Volume and surface area of torus and area of the circle**.

Assume Volume value is available in **Variable V** ,surface Area value is available in **Variable SA** and Area is available in **Variable A**

Similarly do the following,

☐ Display the wind chill factor (WCF).

☐ Display the Volume (V) and Area of the cylinder (A)

Example:

☐ Write a statement to accomplish each of the following:

a) Print the message 'This is MATLAB program' on the MATLAB command window

b) Print the message 'The variable number is not equal to 7' on the MATLAB command window

c) Prompt the user to enter the value from keyboard and store it in the variable x on the MATLAB command window

d) Print 'The product is: ' followed by the value of the variable **result** on the MATLAB command window

Solution

```
Command Window
>> % a)
>> disp('This is MATLAB program')
This is MATLAB program
>> m='This is MATLAB program';
>> disp(m)
This is MATLAB program
fx >>
```

Solution

```
>> % b)
>> disp('The variable number is not equal to 7')
The variable number is not equal to 7
>> r='The variable number is not equal to 7';
>> disp(r)
The variable number is not equal to 7
fx >>
```

Solution

```
>> % c)
>> x=input('Enter value of x:')
Enter value of x:9


x =

      9

>> x=input('Enter value of x:');
Enter value of x:9
>> x=input('Enter value of x:');
Enter value of x:20
>> x=input('Enter value of x:');
Enter value of x:30
>> x

x =

   30
```

Solution

```
Command Window

>> % d)
>> result=-5;
>> m='The product is:';
>> disp(m),disp(result)
The product is:
    -5


fx >>
```

Command	Description
mod(a, b)	when a providing the remainder is divided by b.

```
>> mod(5,3)

ans =

     2

>> mod(6,3)

ans =

     0

>> mod(5,4)

ans =

     1

>> mod(19,4)

ans =

     3
```