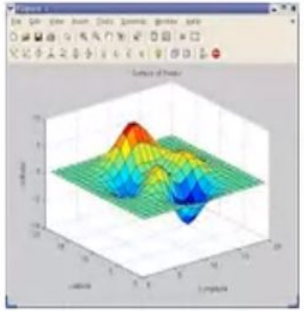
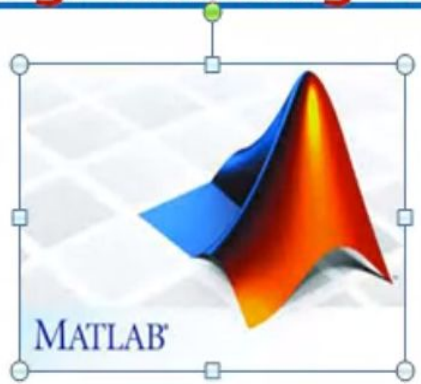
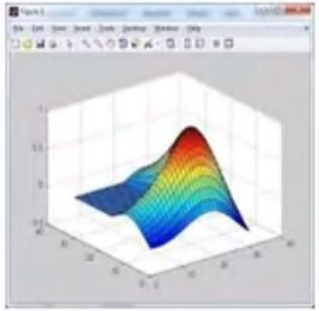
MATLAB
Programming Basics



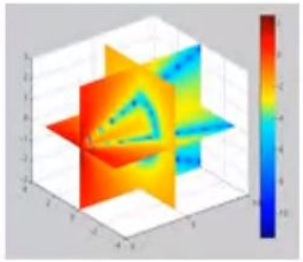


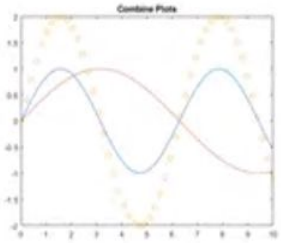


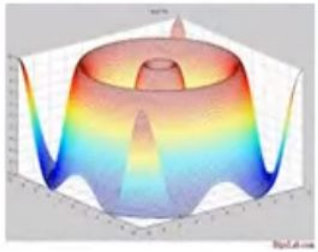
FDP on MATLAB

Click to add subtitle

25-26, July 2019



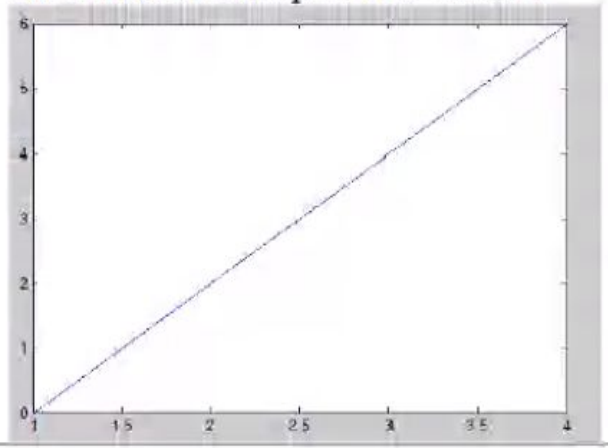




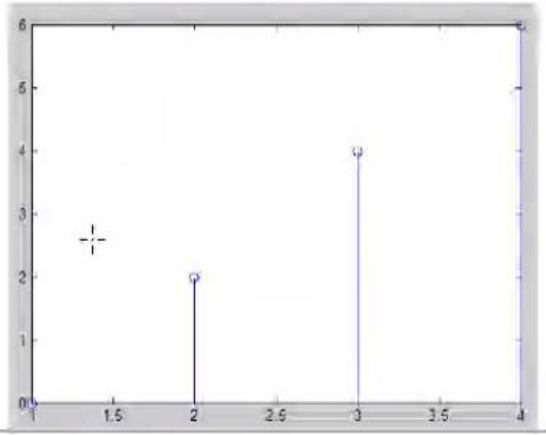
What is MATLAB ?

- Stands for MATrix LABoratory, Developed by The Mathworks, Inc.
  Cleve Moler, in the late 1970s, Initial release: 1984 (www.mathworks.com)
- Originally designed for solving linear algebra type problems using matrices
- An interactive, interpreted and integrated environment
  - For numerical/symbolic, scientific computations and other applications.
    - built-in functions for solving problems in data analysis, signal processing, Neural Networks, optimization
  - Automatic memory management; no need to declare arrays.
  - Intuitive, easy to use, compact notations.
  - Core functionality as compiled C-code, m-files,
  - Additional functionality in toolboxes (m-files)
- Useful tool for mathematical analysis and simulation with results /figures
- Graphics and Visualisation capabilities – 2D, 3D
- Latest version - MATLAB9.6 release 2019a, 2019 includes Deep Learning, Networking

- **x = [0 2 4 6]; t = [1 2 3 4] ; plot (t, x);**
  This instruction will display a figure window which indicates the plot of x versus t



- **stem (t,x)**
  x = [0 2 4 6]; t = [1 2 3 4] ; stem (t, x);



- Subplot: This function divides the figure window into rows and columns

Subplot (2 2 1) divides th

Subplot (2 2 1) divides the figure window into 2 rows and 2 columns 1 represent number of the figure	
1 (2 2 1)	2 (2 2 2)
3 (2 2 3)	4 (2 2 4)

1 (3, 1, 1)
2 (3, 1, 2)
3 (3, 1, 3)