MATLAB Onramp

Command >>> prompt
= assign
- default ans

output
- shown (default)
- ; suppress

↑ recall previous command

clear - workspace } clean
clc - screen

Built-in
- constant π
- function sin, sqrt

Save & load variables (import tool)
save file variable
↳ .mat
load file
myvar. - content of object in workspace

Help
- interact
- doc func_name

Plot plot(x,y)
- x---o-point style
- color, linestyle

hold on - add
close all
annotating plots title, xlabel, ylabel

Script Live Script
- Command
- text
- session

Export
- pdf
- html

} High level language
overlay window
- current folder
- command
- workspace

Vector & Matrix all variables → array
Manually entering array - [ ]
column - space
row - ;

Create evenly spaced vector first : step : last
linespace(first, last, no. of element)
transpose '

Array creation function rand, zeros

Indexing array(row, col)
end - last
: all element
= assign

Operation + - * /
max sqrt
* matrix multiplication
.* elementwise multiplication

Multiple output from function
max - value, index

logical operation > < == ~=
combining logical condition &
logical indexing & assign
Decision Branching if else end
for end
Passing function as input
anonymous function

Working with image data
read imread
show imshow
write imwrite

data/Picture
- array Red Green Blue - indexing
  - color Plane
- Pixel intensity 0-255
  - uint8

im2 double
- rescale 0-1
- floating point

Spatial image filtering
accentuate feature
extract
} noise, shape, edge } filter, mask, kernel - Δ based on neighbour
fspecial('type', parameters)
- average
- laplacian

apply filter to image
imfilter(input image, filter)

boundary option
- Symmetric
- Replicate
- Circulate

Writing function - custom
① declaration - funct [ ] = func_name(input)
② body
end

scope
- local
- save with func_name

Passing function as input @(input) anonymous function
↑ handle @funcname
↑ saved