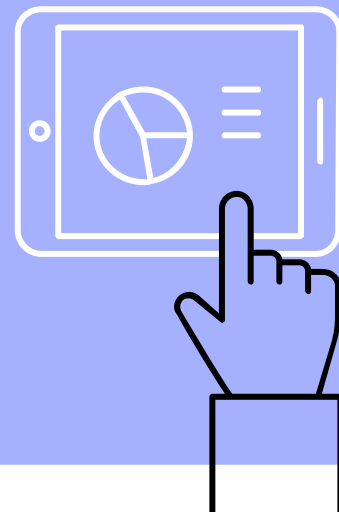
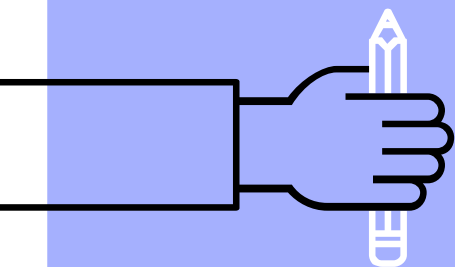


MATLAB Review

Common Mistake & Concept Clarification

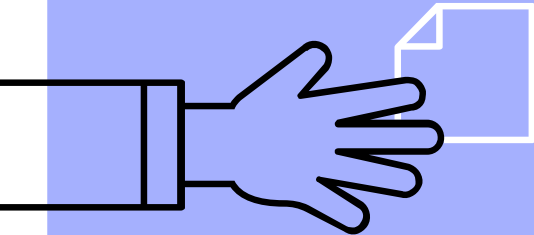
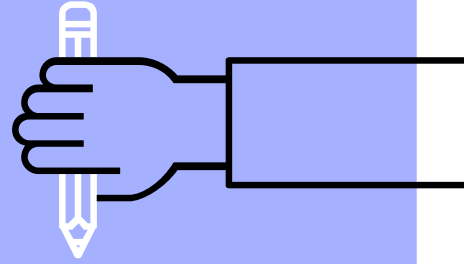
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Contents

- ▶ Weekly assignment
- ▶ Common mistake & concept clarification
- ▶ Mock midterm test

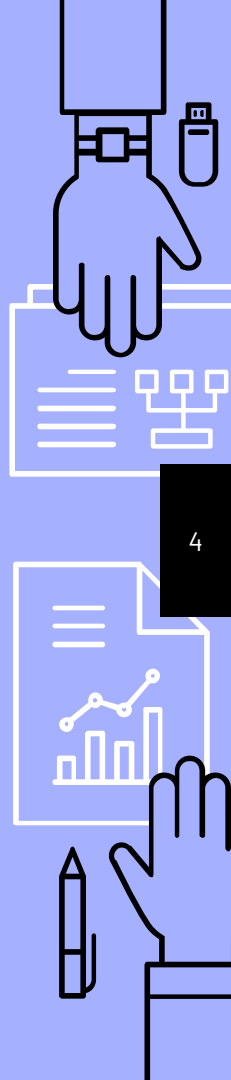
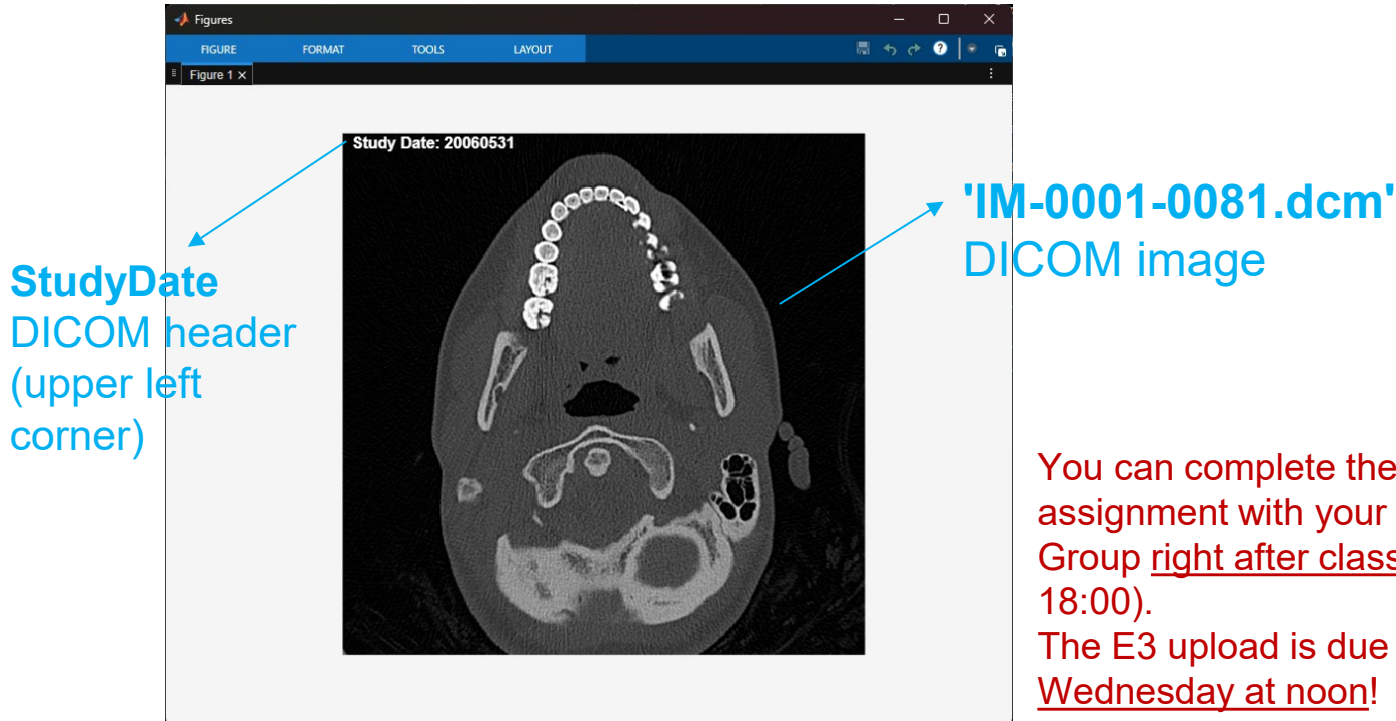
Weekly Assignment



Week 2 Assignment



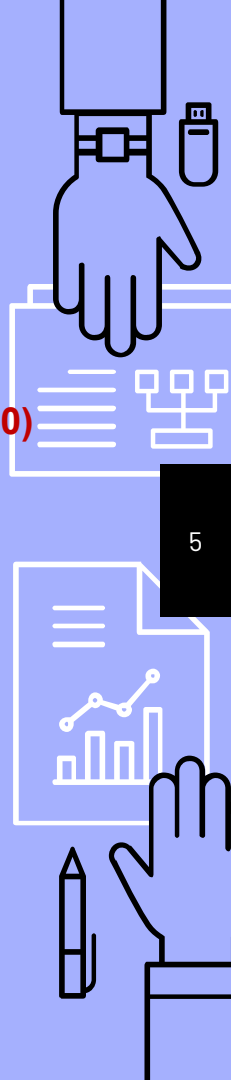
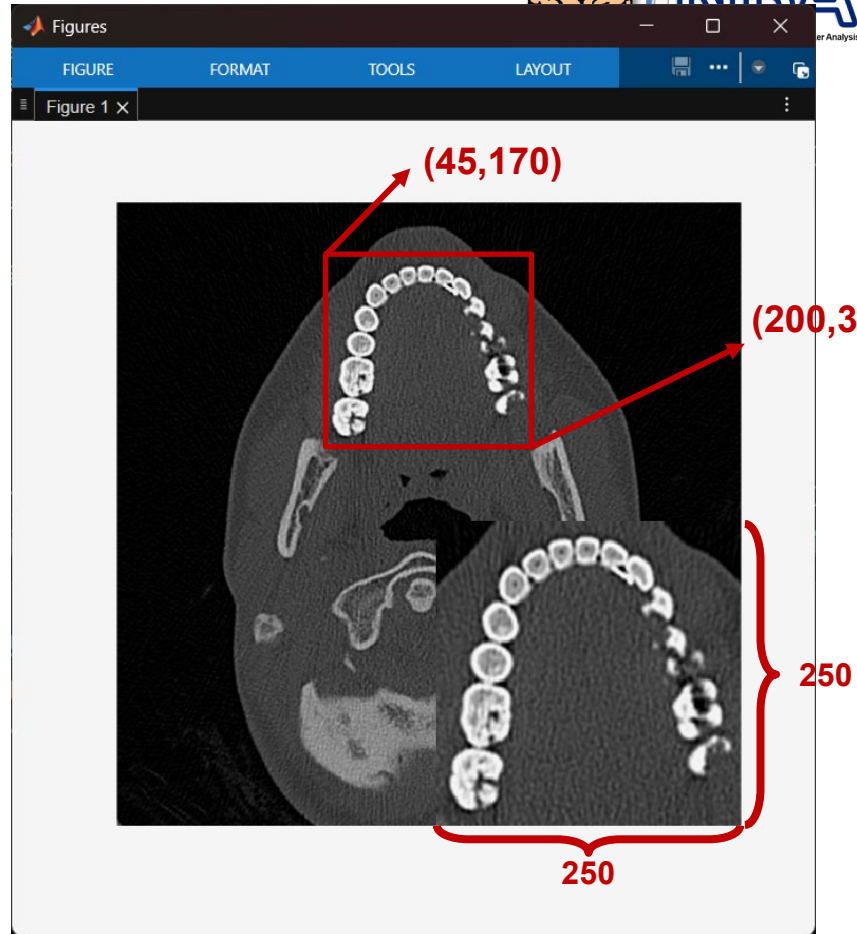
- Create a new script file (**hw02.m**) to display the figure.
- Please include your prompt to Copilot in the m-file (using %).



Week 3 ★★ Assignment

Create a new script file (**hw03.m**)

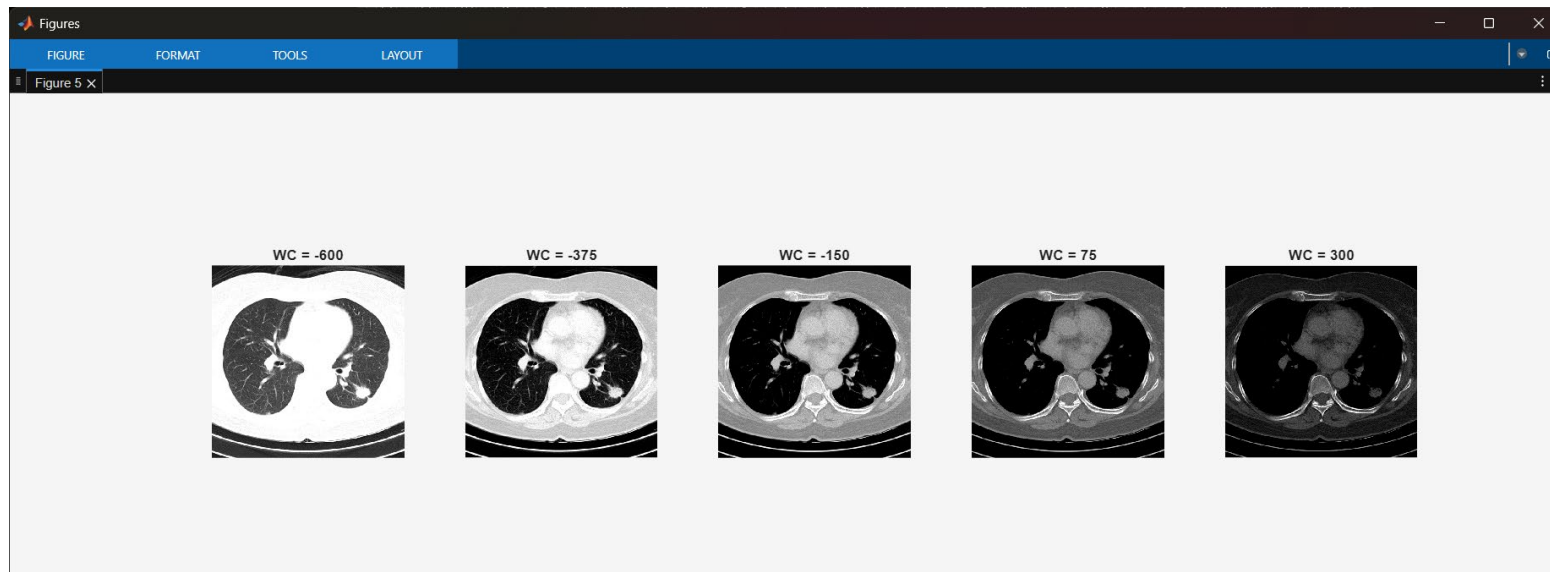
- ▶ Read...
`'IM-0001-0081.dcm'`
- ▶ Extract...
- ▶ Resize...
- ▶ Replace...
- ▶ Display...



Week 5 Assignment ★★

Modify from ImageEx05.m

- ▶ Display images with five different window centers and a window width of 1000.
- ▶ **subplot** Create axes in tiled positions.



Week 6 Assignment



- ▶ Identify female subjects that match **BOTH** conditions:
 - Age > 70
 - IDH Status = 'WT'

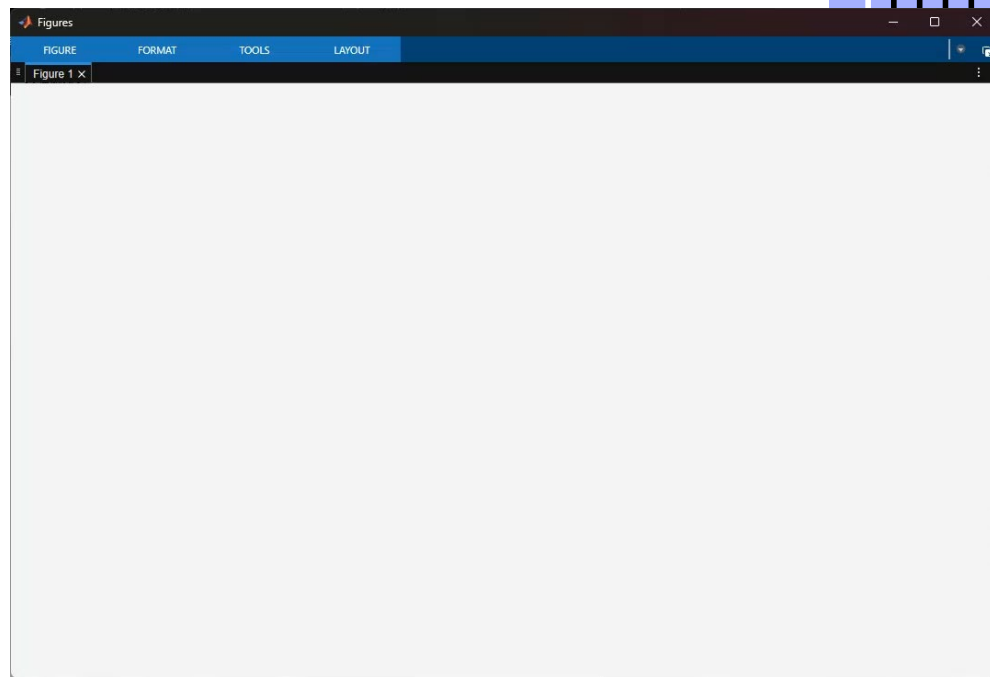
Modify from **ExcelEx06.m**

matching_data x										
12x10 cell										
	1	2	3	4	5	6	7	8	9	10
1	'TCGA-02-0037'	'glioblastoma'	'G4'	74	'female'	3.6140	1	'WT'	'non-codel'	'Unmethylat...
2	'TCGA-06-0119'	'glioblastoma'	'G4'	81	'female'	2.6941	1	'WT'	'non-codel'	'Methylated'
3	'TCGA-06-0122'	'glioblastoma'	'G4'	84	'female'	6.1439	1	'WT'	'non-codel'	'Unmethylat...
4	'TCGA-06-0237'	'glioblastoma'	'G4'	75	'female'	13.6348	1	'WT'	'non-codel'	'NA'
5	'TCGA-06-0649'	'glioblastoma'	'G4'	73	'female'	2.1027	1	'WT'	'non-codel'	'NA'
6	'TCGA-06-5412'	'glioblastoma'	'G4'	78	'female'	4.5340	1	'WT'	'non-codel'	'Methylated'
7	'TCGA-12-1598'	'glioblastoma'	'G4'	75	'female'	15.6389	1	'WT'	'non-codel'	'Methylated'
8	'TCGA-19-2631'	'glioblastoma'	'G4'	74	'female'	6.9981	1	'WT'	'non-codel'	'Methylated'
9	'TCGA-19-5951'	'glioblastoma'	'G4'	76	'female'	8.0166	1	'WT'	'non-codel'	'Unmethylat...
10	'TCGA-19-5954'	'glioblastoma'	'G4'	72	'female'	7.9509	0	'WT'	'non-codel'	'Methylated'
11	'TCGA-27-2526'	'glioblastoma'	'G4'	79	'female'	2.8584	1	'WT'	'non-codel'	'Unmethylat...
12	'TCGA-76-4928'	'glioblastoma'	'G4'	85	'female'	3.0884	1	'WT'	'non-codel'	'Methylated'

Week 7 Assignment



- ▶ Rotate `img` with the following condition.
 - 0:10:180 degree
 - ▶ Display MIP image along column direction for each rotation step.
-
- **Modify from ImageEx07_2.m**



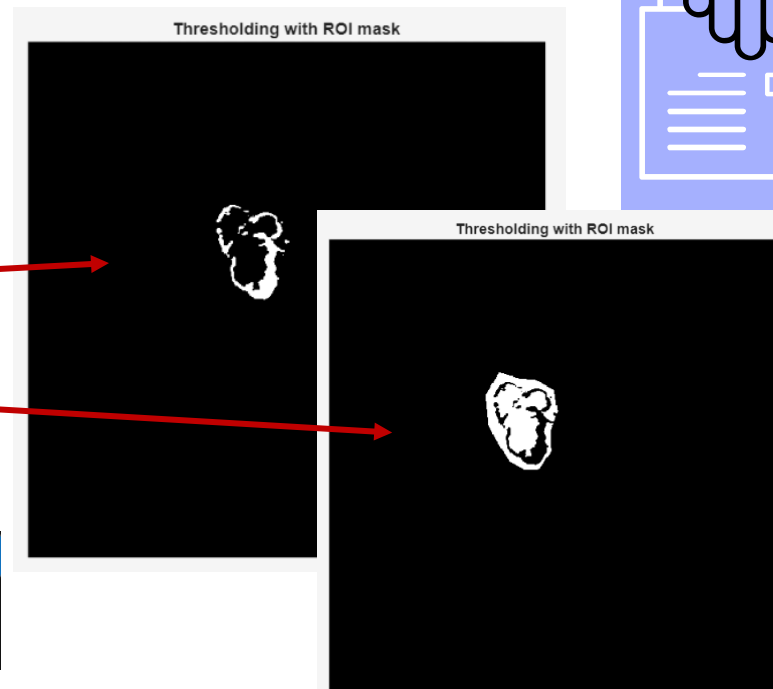
Week 8 Assignment ★★

help `strcmp`

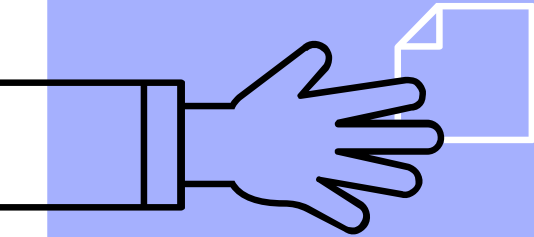
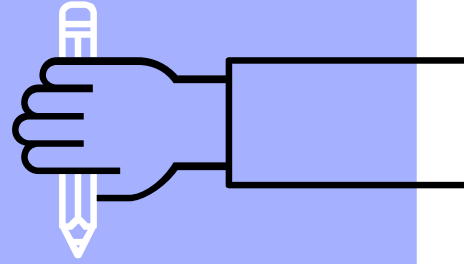
- ▶ Ask for user's input with an option of either 'higher' or 'lower'.
- ▶ If user's input is 'higher', find region within ROI > 1700 .
- ▶ If user's input is 'lower', find region within ROI < 1700 .

Command Window

```
Please enter "higher" or "lower": lower
```



Common Mistake & Concept Clarification



Week 2: Basic Language Usage

- ▶ Not sure about the data format
 - **double** vs. **character/string**
- ▶ Not sure about the data format conversion
 - **num2str** and **str2num**

```
a=110;  
title('Slice #a')  
title(['Slice #' a])  
title(['Slice #' num2str(a)])
```

Week 4: Matrix Operation

- ▶ Not sure about **row** and **column**
- ▶ Not sure about the meaning of
 - `ind=find(A==6)`
- ▶ Don't know the use of "&" to concatenate two conditions.

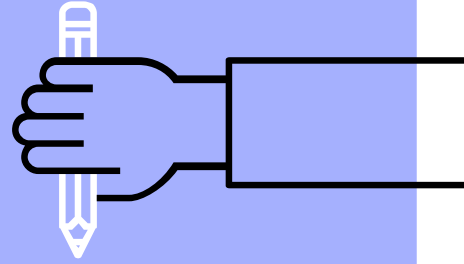
A	c1	c2	c3	c4	c5
r1	12	2	33	4	46
r2	3	7	4	6	5
r3	4	6	64	6	84
r4	6	5	6	7	37
r5	7	4	45	23	78

Week 5: Structure Array

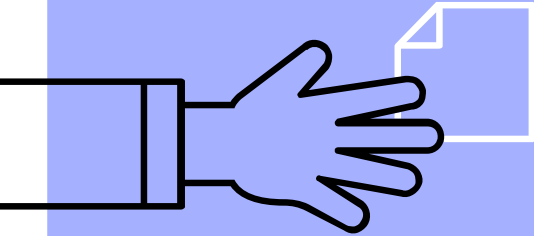
- ▶ Not sure how to adjust image contrast
 - `imshow(img,[])`
 - `imshow(img,[0 100])`
- ▶ Don't know how to get the value from a specific field of the structure array
 - `roi.Position`

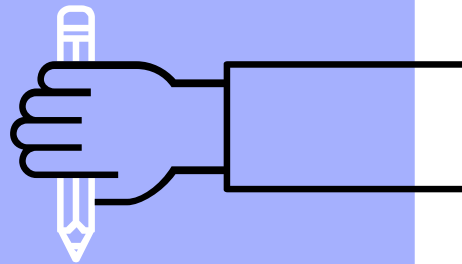
Week 7: for-loop

- ▶ Not sure about the meaning of...
 - `dir`
 - `dirinfo(i).name`
 - `Img(:,:,i)=dicomread...`
- ▶ Not sure about the following functions
 - `squeeze`
 - `flipud`
 - `fliplr`
 - `transpose (')`



Mock Midterm Test





THE END

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