Common Bugs

Other Features

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#### CS368 MATLAB Programming Lecture 14

#### Young Wu

#### Based on lecture slides by Michael O'Neill and Beck Hasti

May 4, 2022

Common Bugs

Other Features

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#### Course Evaluation

Admin

- Course Evaluation on AEFIS:
- A : I have submitted it.
- *B* : *I* will submit it later today or tomorrow (Friday is the last day to do it!).
- C : I will not submit it.
- Thank you!

Admin 0 ommon Bugs

Other Features

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#### / turnin

- Another update tonight after midnight.
- You can submit P7 until next Wednesday.
- Email me if you would like to submit P1 to P6.
- You can submit P1 to P7 code until next Sunday.
- Email me if you would like an extension to complete coursework after next Sunday (requires department approval).

Other Features

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#### Rounding <sub>Quiz</sub>

- $(1 + 10^{-16} 1) * 10^{-16}$
- *A* : 0
- *B* : 1
- C : something else

Other Features

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# Rounding Too

- (1 + 10<sup>-15</sup> 1) \* 10<sup>15</sup>
- A : 0
- *B* : 1
- C : something else

Common Bugs

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# Exponential Quiz

- e^(i \* pi)
- *A* : −1
- *B* : 0
- C : error

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- log(-1) \* -i
- *A* : 0
- *B* : 3.1416
- C : error

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#### Matrix Index Quiz

- m = [1 2; 3 4]; m(3)
- *A* : 2
- *B* : 3
- C : error

Common Bugs

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### Matrix Index Too

- $m = [1 \ 2 \ 3; \ 4 \ 5 \ 6; \ 7 \ 8 \ 9]; \ m(7)$
- *A* : 3
- B : 7
- C : error

Common Bugs

Other Features

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# Ones Vector

- sum(ones(2))
- *A* : 2
- *B* : 4
- C : something else

Common Bugs

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# Zeros Vector

- sum(sum(ones(2)))
- *A* : 2
- *B* : 4
- C : something else

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#### Not! Quiz

- 1 != 1
- *A* : 0
- *B* : 1
- C : error

Common Bugs

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### Replicate Randomness

- f = O(x)(x + rand); f(1) == f(1)
- A : 0
- *B* : 1
- C : error

Common Bugs

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#### Replicate Randomness Too Quiz

- rng(1); f = O(x)(x + rand); f(1) == f(1)
- A : 0
- *B* : 1
- C : error

Common Bugs

Other Features

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### Hermitian Transpose

- m = [0 i; 0 0]'; m(2, 1)
- A : i
- *B* : −*i*
- C:0

Common Bugs

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#### Floating Point Quiz

- 0.1 + 0.1 + 0.1 0.3
- *A* : 0
- B : 0.0000
- C : something else

Common Bugs

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### Floating Point Too

- 0.1 \* 3 0.3
- *A* : 0
- B : 0.0000
- C : something else

Common Bugs

Other Features

# Singular Matrix Inversion Quiz

- m = ones(2) / zeros(2); m(2, 2)
- A : NaN
- *B* : Inf
- C : error

Common Bugs

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## Singular Matrix Inversion Too

- $m = ones(2) \setminus zeros(2); m(2, 2)$
- A : NaN
- *B* : Inf
- C : error

Common Bugs

Other Features

#### Diff Operator Quiz

- $m = diff([1 \ 2 \ 3]) + [1 \ 2 \ 3]; m(1)$
- *A* : 1
- *B* : 2
- C : error

Common Bugs

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# Colon Operator

- m = diff(1:3) + 1:3; m(1)
- *A* : 1
- *B* : 2
- C : error

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#### Imaginary Stuff Quiz

- *i* == *j*
- *A* : 0
- *B* : 1
- C : something else

Common Bugs

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# Assign I

- *i* = 3; 1 \* *i* + 1
- *A* : 1 + *i*
- *B* : 4
- C : something else

Common Bugs

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### Assign I Again

- *i* = 3; 1*i* + 1
- *A* : 1 + *i*
- *B* : 4
- C : something else

Common Bugs

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#### Length of Matrix Quiz

- length ([1 2; 3 4])
- *A* : 2
- *B* : 4
- C : something else

Common Bugs

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### Length of Matrix Again Quiz

- length ([1 2; 3 4; 5 6])
- *A* : 2
- *B* : 3
- C : something else

Common Bugs

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### Double Comparison

- *x* = 2; 1 < *x* < 3
- *A* : 0
- *B* : 1
- C : error

Common Bugs

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#### Double Comparison Too Quiz

- *x* = 4; 1 < *x* < 3
- *A* : 0
- *B* : 1
- C : error

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# Double Comparison Three Quiz

- *x* = 0; 1 < *x* < 3
- *A* : 0
- *B* : 1
- C : error

Common Bugs

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#### Not a Number Quiz

- max(1, 0/0)
- *A* : 0
- *B* : 1
- C : something else

Common Bugs

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- max(1, 1/0)
- *A* : 0
- *B* : 1
- C : something else

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- any([0, 0/0])
- *A* : 0
- *B* : 1
- C : something else

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#### All Quiz

- all ([1, 0/0])
- *A* : 0
- *B* : 1
- C : something else

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Other Features

### Toolbox and Add-On

Code



Common Bugs

Other Features

# Data and Plots Code

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