

## EE322 Fall 2008: Quiz 02 – Solutions

1. Suppose you run each of the following lines of code from the command line in MATLAB. What would be displayed in the command window? (note: after each problem, I've started your answers)

a.  $\gg A = [1 \ 2 \ 3; \ 4 \ 5 \ 6; \ 7 \ 8 \ 9]$

$$A = \begin{matrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{matrix}$$

b.  $\gg X = [1 \ 3]; , X = X.^2$

$$X = \begin{matrix} 1 & 9 \end{matrix}$$

c.  $\gg W = [1 \ 2 \ 5]; , Z = [0 \ 4 \ 5]; , W.*Z$

$$W.*Z = \begin{matrix} 0 & 8 & 25 \end{matrix}$$

d.  $\gg s = \text{floor}(0.25)$

$$s = \begin{matrix} 0 \end{matrix}$$

e.  $\gg h = 4; , b = [2 \ 4 \ 6]; , \text{area} = 1/2 * b * h$

$$\text{area} = \begin{matrix} 4 & 8 & 12 \end{matrix}$$

f.  $C = [0 \ 2 \ 3; \ 3 \ 2 \ 1; \ 2 \ 2 \ 2; \ 6 \ 7 \ 8]; , [\text{row}, \text{col}] = \text{find}(C == 8)$

$$\text{row} = \begin{matrix} 4 \end{matrix}$$

$$\text{col} = \begin{matrix} 3 \end{matrix}$$

*note:*

$$C = \begin{matrix} 0 & 2 & 3 \\ 3 & 2 & 1 \\ 2 & 2 & 2 \\ 6 & 7 & 8 \end{matrix}$$

g.  $P = [4; 7];$ ,  $P'$

note:  
 $\frac{P}{P} = \begin{matrix} 4 \\ 7 \end{matrix}$

$P' = \begin{matrix} 4 & 7 \end{matrix}$

h.  $D = [1, 2, 3; 2, 0, 2; 6, 7, 8];$ ,  $[row, col] = \text{find}(D == \min(\min(D)))$

row = 2  
 col = 2

$D = \begin{matrix} 1 & 2 & 3 \\ 2 & 0 & 2 \\ 6 & 7 & 8 \end{matrix}$

2. Which of the following commands either causes errors in MATLAB or is bad coding practice, and why? If the command will not cause a problem, say so.

a.  $>> \text{mean} = 6;$  bad coding practice;

mean is a matlab function, so assigning mean as a variable prevents you from using the mean function

b.  $>> A = [1 2];$ ,  $B = [2 3 4];$ ,  $A .* B$

$1 \times 2$                    $1 \times 3$

error - 2 vectors have different # of elements

c.  $>> 7ralph = 2 * \exp(-1);$

error - variable names must start w/a letter

d.  $>> M = 2 * \sin(100);$

no problem

Bonus: Whose assassination in 1914 sparked the beginning of World War I?

Archduke Franz Ferdinand  
of Austria