

Name: Key

EE432 Fall 2008 Quiz 01

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.  $\text{A} = [1 \ 2 \ 3; \ 4 \ 5 \ 6; \ 7 \ 8 \ 9]$

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

b.  $\text{x} = [1 \ 3]; \ \text{x} = \text{x}.^2$

$$\begin{matrix} \text{x} = & 1 & 9 \end{matrix}$$

c.  $\text{w} = [1 \ 2 \ 5]; \ \text{z} = [0 \ 4 \ 5]; \ \text{w}.*\text{z}$

$$\begin{matrix} \text{w}.*\text{z} = & 0 & 8 & 25 \end{matrix}$$

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

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

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

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

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

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

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

note:

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

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

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

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