

### Review: Week 3

1. What are the differences between a row vector, column vector, and matrix of values?
2. You have the following matrix:

data =

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

- a. You run the following command: `result = mean(data, 1)`
    - i. What does the 1 signify?
    - ii. Is the result variable a row or column vector?
  - b. What happens if you ran the following command instead? `result = mean(data, 2)`
  - c. How would you index the following values from the data variable?
    - i. 5
    - ii. 10
    - iii. 15
    - iv. 8
    - v. 16
    - vi. 2
    - vii. 14
3. Why is the word 'function' always at the beginning of a function script?
  4. True or False: all variables required for function execution do not need to be included as input variables.
  5. What's wrong with the following function headers?
    - a. `z = mean(x, dim, flag1, flag2)`
    - b. `function = my_func(value1, value2)`
    - c. `function result = my_func(value1)`  
`result = value1 + value2`  
`end`
    - d. `function result = my_func(20, 30)`
  6. On strategies for debugging
    - a. What is a breakpoint? Why might it be useful?
    - b. How do you know when you're in debug mode?
    - c. You are paused on a line in debug mode. How do you advance to the next line?
    - d. After you are paused on a certain line, what does the Continue button do?
  7. True or False: you can return multiple variables out of a function.

## **Week 4, Part 1**

1. Download all the \*.m files in the WEEK\_4 folder. Ensure that MATLAB can 'see' the path to where you have downloaded these files.
2. This game is kickstarted by the 'main' function. In the Command Window, type 'main' and press enter, and follow the instructions in the Command Window.
  - a. What do you notice about main versus other functions we've worked with before?
3. Comment each line across all functions to explain the workflow of this set of games. Start by opening the main.m function.
4. Add your own game by:
  - a. Creating a new function script that can be called in main.
  - b. Modify the list of games in main to include your new game as an option.
5. Make a list of all the new functions you encountered and what they do.