# Problem Set for Day 7, 1.29.2024

Engineering 104 - Fundamentals of Engineering Computing

**Formatting, Organization & Code Comments** - Complete the following problems in `Python` and include as part of the submission of the appropriate assignment. Your assignment file should include a proper heading, comments and show clear organizational structure with each problem clearly printed, separated and with each result variable clearly displayed. All problems worked should have a formatted/structured print-out. Print a string denoting each problem, with the solution to the problem clearly printed as a formatted string below the denoted problem. Separate each problem using a blank line in both the code and the printed results. Code comments should be completed throughout the file on every line of code by default. If this assignment requires you to write and submit additional auxiliary script, or any other files in the submission, please append your initials capitalized to the end of the file name.

**Python, Lecture #7 Problems - Introductions & Operations (8 Points)**

*Problem 7.1 (2 Points) - Write addition, subtraction, multiplication and division operations that each result in the number 9. Make sure to print your results so they are visible when the script is run so the resulting output is the number 9 appearing once each on four lines.*

*Problem 7.2 (2 Points) - Use a variable to represent a person's name, and print a message to that person. Your message should be simple, such as, "Hello Eric, would you like to learn some Python today?" The variable that is assigned to the persons name must be used in the print statement.*

*Problem 7.3 (2 Points) - Use a variable to represent your favorite number. Then, using that variable, create a message that reveals your favorite number. Print that message but your variable must be used for the number in the message.*

*Problem 7.4 (2 Points) - A ball is thrown up vertically up in the air from a height $h_0 = 1.6$ meters above the ground at the initial velocity $v_0 = 15.2$ $m/s$. Its subsequent height $h$ and velocity $v$ are given by the equations*

$$h = h_0 + v_0 t - \frac{1}{2} g t^2, \tag{1}$$

$$v = v_0 - g t. \tag{2}$$

*Determine the height and velocity of the ball after 1.5 seconds and print your results.*