# Homework 2 (59 points)

For Questions 1-3, write your answers in red and include the screenshot for Question 3 in this document. For Question 4, write a Python script. Upload to Moodle a zip folder containing this document and the Python script for Question 4.

## Question 1 (3 points)

What is the value of counter after the following code is executed?

counter = 10

counter /= 5

counter -= 7

counter += 2

counter = -3

## Question 2 (4 points)

Explain the difference between these two statements: x == 5 vs. x = 5

== checks for equivalency = is an assignment operator

## Question 3 (17 points)

Copy the following code into your editor of choice (EX: Mu), write the output of the program in red below (8 points). and include a screenshot of you debugging the Python script after setting a breakpoint somewhere in the code (3 points). Furthermore, comment the code in red below with the intermediate values (6 points). See the comment after the first print statement for an example.

x, y, z = False, True, True

print((x and y) and z) # (False and True) and True - -> False and True - -> False

print(x and (y and z)) # false and (True and true) -> False and Trues -> False

print((x or y) and z) # (false or True) and True->True and true -> True

print((x and y) or z) #(false and true) or True->false or true-> True

print(x or (y and z)) # False or (true and true) ->False or True->True

print(x and (y or z)) # False and(true or true)->False and True->False

print((x or y) or z) # (false or true) or True ->True or True-> true

print(x or (y or z)) # False or(True or True)-> False or true-> TRue

## Question 4 (35 points)

We want to write a Python script that takes a number between 0-100 and prints the corresponding letter grade to the screen.

* Ask the user to enter an integer between 0-100 (1 point)
* Save the user input to a variable (1 point)
* Use a series of if, elif, and else statements to print the correct letter grade and GPA to the screen based on this list: (22 points)
  + 93-100 🡪 4.0, A
  + 83-92 🡪 3.7, A-
  + 74-82 🡪 3.3, B+
  + 68-73 🡪 3.0, B
  + 58-67 🡪 2.7, B-
  + 51-57 🡪 2.3, C+
  + 43-50 🡪 2.0, C
  + 33-42 🡪 1.7, C-
  + 26-32 🡪 1.3, D+
  + 13-25 🡪 1.0, D
  + 0-12 🡪 0.0, F
* Use a loop to allow the user to enter more than one number. The loop stops if the user enters a -1. (6 points)
* You must comment your code (5 points).
* Extra credit (5 points): check if the user enters an integer lower than -1 or greater than 100 and print an error message