

CS8, Spring 2017, UCSB  
HW3: Worth 50% of Lab03 score (50 total points)

Print this form, staple loose pages together, and write your answers on it.

Accepted: On paper, at \*your\* lab section on Tuesday, April 25.  
Place on the front desk as you walk in, before getting seated.

Name (2 pts): \_\_\_\_\_

Umail (2 pts): \_\_\_\_\_@umail.ucsb.edu

Lab Time (2 pts) Circle one:        8am        9am        10am        11am

To answer the questions on this homework, it will be very helpful to have a computer system running Python 3.x available to you.

After you have read chapter 2 of the textbook, answer these questions:

1. For this problem, focus on section 2.5.2 (which ends on page 59).
  - a. (3 pts) What is the purpose of typing `import math` at the top of a Python file, or as the first command in a session in Python?
  
  - b. (3 pts) If you have assigned a floating point value to the variable `x`, what do you type at the Python prompt to display the square root of `x`?
  
  - c. (3 pts) In the code in Listing 2.3 on p. 58 of the textbook, there is a line `acc = 0`. Obviously, this line assigned the variable `acc` to the value zero. Why? (That is, in the context of this program, why are we setting `acc` to zero?)
  
  - d. (3 pts) (Continued from part c). We set `acc` to zero at the start of listing 2.3. At the end of the function, we see the statement, `return acc`. Will the value of `acc` still be zero at that point? If not, explain what value `acc` will have. (You'll need to read the text around the listing to learn this.)
  
2. (5 pts) (based on Exercise 2.8 from page 56 of the text). Write Python statements that calculate the sum of the first 100 even numbers (`2+4+6...200`).

3. Boolean expressions (from Exercises on pages 66-67 in the textbook)  
a. (2 pts) what is the result of evaluating the Boolean expression  
False or True?

b. (2 pts) what is the result of evaluating the Boolean expression  
False and True?

c. (2 pts) what is the result of evaluating the Boolean expression  
not 7 > 3?

d. (2 pts) write a simpler Boolean expression that means exactly  
the same as (not x > y).

e. (3 pts) write a compound Boolean expression that evaluates to  
True if the value of the variable count is between 1 and 10 inclusive.

4. (5 pts) (Exercise 2.29 on page 72 from the textbook). write a selection  
statement that sets the value of a variable named answer to 1 if a variable  
named result is equal to 100. Set answer to 2 otherwise.

5. (7 pts) (Exercise 2.34 on page 72 from the textbook). write a function  
that takes three integer parameters and returns the value of the largest one.

6. As an introduction to a portion of Lab03, do some Internet research  
about the "Golden Ratio" - often denoted by the Greek letter phi.

a. (2 pts) what is a generally accepted approximate value of phi?

b. (2 pts) Give one example in which the golden ratio applies in nature?

End of Hw3