

CS 8 – Introduction to Computer Science
HOMEWORK 2

Print this form and write your answers on it.

SCORE: (out of 40)

Submit this homework (hardcopy) to class. DUE DATE is 02/05/18.

Name: _____

Umail: _____@uemail.ucsb.edu

Perm ID Number: _____

Lab Time Circle one: 1 PM 2 PM 3 PM 4 PM

To answer some of the questions on this homework, it will be very helpful to have a computer system running Python version 3.x (e.g., 3.6) available to you. To find such a system, you can either:

- Log on to one of the computers in the CSIL computer lab, and access Python 3 there - see posted Lab00 for instructions.
- Download Python 3 to your PC or Mac, and access Python 3 there.

1. Read at least pages 23-28 about Abstraction and using the turtle module. You may like to try the statements from the book as you read about them - you'll learn more, and have more fun if you do. Remember that if you want to use the turtle module, first you must type the following command at the Python prompt:

>>> import turtle

Then, answer these questions:

- a. (2 pt) What do you type to create a new turtle object called Camilla?
- b. (4 pts) What do you type to make Camilla to move forward 75 pixels? What direction is Camilla heading (N, S, E, W)? What angle is that considered to be?
- c. (2 pts) What do you type to make Camilla change her angle to 45 degrees clockwise to her current position?
- d. (2 pts) The book mentions parameters. What are those and where did you use those in the questions above?

2. (6 pts) Write a defined Python function called **drawRectangle** that accepts 3 parameters: a turtle object, a width, and a length, so that it may be called like this: **drawRectangle(Camilla, 150, 50)** or **drawRectangle(Jessie, 200, 300)**. Test it out to make sure it works. Print out of your function definition on a separate piece of paper and attach it to this homework.
3. (10 pts) Write a defined Python function called **evaluateNumbers** that accepts 3 parameters – a , b , and c – all of them integers, so that it may be called like this: **evaluateNumbers(3, 6, 5)**. This function should print out “Scenario A” if the integer a is equal to the modulo of the double of b with c , or it should print out “No Scenario” if that condition is not met. Test it out with different parameters and report on 2 incidents when the function printed out “Scenario A”. Print out of your function definition *and* your 2 incidents report on a separate piece of paper and attach it to this homework (it can be on the backside of your answer to question number 2).
4. (4 pts) What 2 lines (and only 2 lines) of Python code will print out the decreasing numerical sequence: **21, 18, 15, ..., 3, 0**, where each number is printed on a separate line of output?
5. (10 pts) Write Python code that will print out all the even numbers between 7 and 21, separated by a comma and space, except for the last number which should be followed by a dot. In other words, it must print out:
8, 10, 12, 14, 16, 18, 20.
You must use a **for** loop using a **range** argument and at least one **if-statement** or you will not get credit for this question. You don’t need to show your answer on a separate sheet of paper, but it’s ok if you do.