**Module 1 Lab Project   
CWCT140  
Python Essentials**

There are two assignments below – Easy and Challenging. You only need to complete ONE of these assignments.

Easy:

Complete the three exercises below. Take a snapshot of your code and the result and paste into this document. Submit this document to the assignment basket.

Hint: If you are really, really stuck – you can find hints at <https://holypython.com/beginner-python-exercises/exercise-1-print>. Try to do the exercise before looking at the hints.

**Exercise 1-A**

# Replace "type here" with "Hello World!"

print("type here")

**Paste Snapshot of Code and Result Here**

A screenshot of a computer

Description automatically generated

**Exercise 1-B**

# You can assign "Hello World!" to the variable below and print it.

my\_text=""

print(my\_text)

**Paste Snapshot of Code and Result Here**

A screenshot of a computer

Description automatically generated

**Exercise 1-C**

# Type a couple of different values inside the print function. Make sure they are separated by commas.

print("")

**Paste Snapshot of Code and Result Here**

A screenshot of a computer program

Description automatically generated

Challenging:

This assignment has a little more teeth to it. Modify the “sine wave” generator that was demonstrated in the lecture to display two sine waves that are out of phase by 180 degrees. Only two lines of code need to be added or modified – the hints are shown below. This is best done in an IDE like Spyder, IDLE or Visual Studio Code. The Netacad sandbox kind of works but is not as dynamic as one would hope for.

**Exercise 2**

# Sine Wave Generator two sine waves 180 degrees out of phase

# y = Offset + A \* sin(angle\_in\_radians)

import math

import time

A = 40

Offset = 40

for y in range(100):

for x in range(0, 359, 15):

radians = 2 \* math.pi \* x / 360

index1 = int(Offset + (A \* math.sin(radians)))

# calculate a second index by adding PI to the angle\_in\_radians

line = ""

for j in range(A\*2 + 1):

if j == index1: # add OR comparison for the second index

line = line + "\*"

else:

line = line + " "

print(line)

time.sleep(0.1)

**Paste Snapshot of Code and Result Here**

