Week 1, Examples 1

#1.py
print ("Hello World!")

#2.py
# Read in and print whatever you type in
sometext = input("Enter any text you want ")
print ("This is what you typed:")
print (sometext)

#3.py
# The \n (just as in the C-language) between quotes
# causes a new line wherever it occurs
sometext = input("Enter any text you want \n")
print ("This is what you typed:")
print (sometext)

#4.py
# assign a character string to a variable, and then use that variable
waitforinput  = "Enter any text you want "

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sometext = input(waitforinput)

print("This is what you typed:")

print(sometext)

#---------------------------------------------
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#5.py
# a function with no parameters (i.e., nothing between the parents)
def print_some_text():
    print("This is an example of a function ")
    print("that prints these lines ")
    print("whenever you invoke it by name.")
    print("Note that each print is on a new line ")
#---------------------------------------------
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#6.py
# A function can accept parameters as input so that you can use
# them flexibly
# Remember to use quotes for strings, i.e., name is "Jane", and
# shoe_colour is "pink"
def say_hello(name, shoe_colour):
    print("Hello there ", name)
    print("I do like your stunning ", shoe_colour," shoes!")
#---------------------------------------------
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# A function that computes y = f(x^2) (that is x squared) for integer x in
# interval [-20,20]
def main():
print("A simple example of a for-loop")

for x in range(-20,21): # x is an integer variable now used as a for-loop index
    y = x * x
    print(x,y)

# Example from textbook (chaotic function), but with two inputs (x and xprime) simultaneously

def main():

    print("We will demonstrate a chaotic function")
    x = eval(input("Enter any number between 0 and 1: "))
    xprime = x + 0.01
    print("     ",x,"             ",xprime)
    for i in range(10):
        x = 3.9 * x * (1-x) # this is the
        xprime = 3.9 * xprime * (1 - xprime) # chaotic function
        print(i,"    ",x,"             ",xprime)

    # You'll notice that, even though we left spaces (blank characters) in the # print statement, the numbers will not be printed in even vertical columns. # Why? Because some output numbers have fewer digits after the decimal point # than others. The extra zeroes are not printed.
    # We will learn how to format strings later, to get prettier output.