**Function with parameters**

**Model answers**

**Challenge 1**

**Write a program that prompts the user for their name and then their phone number (The program may store both as text) Use a function to output the following text:**

**Hello there, my name is < name of user > and my number is < phone number >.**

# Functions With Parameters

# Challenge 1

# author: A. N. Other

# date: November 2016

name = input("\nPlease enter your name: ")

phone\_number = input("Please enter your phone number: ")

def display(name, phone\_number):

print("\nHello there, my name is {0} and my number is {1}."

.format(name,phone\_number.rstrip()))

display(name, phone\_number)

'''

# test case assertion 1

print("\n\nTest case assertion 1 - input and output shown below.\n\n")

print("Please enter your name: jeff williams\n",

"Please enter your phone number: 0226921065\n\n",

"Hello there, my name is jeff williams and my number is 0226921065.")

'''

**Challenge 2**

**Write a program that prompts the user for a number and then outputs the first 4 multiples of that number. You must use a loop in your method. Assume that the user enters a valid positive integer.**

# Functions With Parameters

# Challenge 2

base = int(input("\nPlease enter a number: "))

def display\_multiples(base):

ctr = 1

num = base

while ctr <= 4:

num += base

ctr += 1

print(num)

display\_multiples(base)

#'''

# test case assertion 1

print("\n\nTest case assertion 1 - input and output shown below.\n\n")

print("Please enter a number: 3\n",

"6\n",

"9\n",

"12\n",

"15")

#'''

**Challenge 3**

**Write a program that prompts the user to enter the integers x and y. The program must then output the first y multiples of x separated by commas. An example is:**

**x = 4 and y = 3 output = 4, 8, 12.**

# Functions With Parameters

# Challenge 3

# author: A. N. Other

# date: November 2016

base = int(input("\nPlease enter a number (x): "))

terms = int(input("\nPlease the number of multiples to generate (y): "))

def display\_multiples(base, terms):

ctr = 1

num = base

while ctr <= terms:

num += base

ctr += 1

print(num)

display\_multiples(base, terms)

#'''

# test case assertion 1

print("\n\nTest case assertion 1 - input and output shown below.\n\n")

print("Please enter a number (x): 2\n",

"Please the number of multiples to generate (y): 4\n",

"4\n",

"6\n",

"8\n",

"10")

#'''

**Challenge 4**

**Write a function that sums all the numbers in a stored list.**

# Functions With Parameters

# Challenge 4

# author: A. N. Other

# date: November 2016

print('\nSumming list values')

#initialise list

list = [5, 7, 21, 32, 10]

print('\nList Entries:', list)

#sum values in the list

def sum\_items(list):

sum = 0

for value in list:

sum += value

return sum

print('\nSum of values in the list: {0}'

.format(sum\_items(list)))

#'''

# test case assertion 1

print("\n\nTest case assertion 1 - output shown below.\n\n")

print("Summing list values\n\n",

"List Entries: [5, 7, 21, 32, 10]\n\n",

"Sum of values in the list: 75\n")

#'''

**Challenge 5**

**Write a function that calculates and displays the number of upper and lowercase letters in a stored string.**

# Functions With Parameters

# Challenge 5

# author: A. N. Other

# date: November 2016

print('\nCounting Characters')

word = input("Please enter a string: ")

def count\_characters(word):

upper\_case, lower\_case, other\_characters = 0, 0, 0

for key, value in enumerate(word):

if value.isupper():

upper\_case += 1

elif value.islower():

lower\_case += 1

else:

other\_characters += 1

print('\nCharacter Counts:'

'\nUpper case letters: {0}'

'\nLower case letters: {1}'

'\nOther characters: {2}'

.format(upper\_case, lower\_case, other\_characters))

count\_characters(word)

#'''

# test case assertion 1

print("\n\nTest case assertion 1 - output shown below.\n\n")

print("Counting Characters:\n",

"Please enter a string: Jeff Williams\n\n",

"Character Counts:\n\n",

"Upper case letters: 2\n",

"Lower case letters: 10\n",

"Other characters: 1")

#'''

**Challenge 6**

**Write a Python program to print the even numbers from a stored list.**

# Functions With Parameters

# Challenge 6

# author: A. N. Other

# date: November 2016

print('\nCounting Even Numbers from this list:')

numlist = [3,5,6,2,13,24,42]

print(numlist)

def count\_even\_numbers(list):

counter = 0

for index, item in enumerate(list):

if (isinstance(list[index], int)

and (list[index] % 2) == 0):

counter += 1

print('\nThe count of even numbers is: {0}'

.format(counter))

count\_even\_numbers(numlist)

#'''

# test case assertion 1

print("\n\nTest case assertion 1 - output shown below.\n\n")

print("Counting Even Numbers from this list:\n",

"[3, 5, 6, 2, 13, 24, 42]\n\n",

"The count of even numbers is: 4")

#'''