10th June - Python (Functions Assignment) – 1

1. Built in functions are those which are provided a part of python they perform certain genera; purpose actions eg: print(), len(), int() etc.

User defined functions are defined by users using keyword def and perform some custom actions eg:

def sum(x,y):

retrun x + y

1. Arguments can be passed to functions during a function call, this can be done in two ways.
2. Positional argument: Arguments are passed in the order of parameters as defined in the function declaration. Eg: func(parm1,parm2,parm3)
3. Keyword argument: Parameter Names are used to pass the argument during the function call, order doesn’t matter in this approach. Func(parm1 = “xyz”, parm3 = “abc”, parm2 = 123)
4. A return statement returns a value and execution control back to the calling statement. Yes a function can have multiple return statements as per different control statements but finally only one is executed based on a condition.

Eg:

def calc(a, b, operation\_type):

if operation\_type == "add":

return a + b

else:

return a \* b

print(calc(5,2,"add"))

1. A lambda function is an anonymous function (i.e., defined without a name) that can take any number of arguments but evaluates and returns only one expression. Eg:

add = lambda x,y: x+y

print(add(1,2))

1. Scope defines the extent of accessibility in a program. Global scope is one which is accessible to the whole program. Local scope is restricted to corresponding functions. There can be as many local scope variable as the number of function in a program.
2. There are multiple ways of returning multiple values
3. Dictionary
4. List
5. Tuple

Eg:

def calc():

num1 = float(input(print("Enter first number")))

num2 = float(input(print("Enter second number")))

return(

(num1 + num2),

(num1 - num2),

(num1 \* num2),

(num1/num2)

)

calc()

1. Pass by Value: we pass a copy of actual variables in function as a parameter. Hence any modification on parameters inside the function will not reflect in the actual variable.

Pass by reference: argument that has been passed to the function is a reference to a variable that is already existing in the memory. In this approach, any operations executed will have a direct effect on the variable it refers to.

1. import math

def calc2():

num = float(input(print("Enter number")))

return(

math.log(num),

math.exp(num),

2 \*\* num,

math.sqrt(num)

)

print(calc2())

1. def nameformat():

Name = input("Print Name")

namelist = Name.split()

print(namelist[0])

print(namelist[1])

nameformat()