Assignment – 3

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1. Why are functions advantageous to have in your programs?

Ans.) Functions in programming are important because they reduce the repeatability of writing same code for performing same operation. Functions give the power of repeatability of execution of a code required for similar operation.

2. When does the code in a function run: when it's specified or when it's called?

Ans.) The code in a function runs only when it is called in the program. The specification of code refers to the inner body of a function or we can say the what actually the code inside the function does but without calling the function using its name and parameters ( if applicable ) the function can’t be run.

3. What statement creates a function?

Ans.) ‘def’ keyword is used to create a function. The statement of creating a function goes in the manner that first the ‘def’ keyword is written then ‘function\_name’ ( name of function ) is written and then a closed round bracket () is written. If a user wants to pass any argument in the function, they can define it inside the round brackets.

For example :-

def function\_name(name): #creating function named ‘function\_name’

print(name) # inner code block of function

function\_name(‘Ramesh’) # function call

4. What is the difference between a function and a function call?

Ans.) A function is a named block of code which performs a particular operation defined in it only when they are invoked, it is defined using a ‘def’ keyword (in python) after which the name of that function is set by the user with closed brackets in which the user defined arguments can be passed ( optional ) which helps user to perform same operation with different inputs using the same function on the other hand a function call is a act of invoking/executing a function for using the code inside it in the required program.

def addNum(x,y): #creating/defining function

return x+y #code inside

addNum(5,6) #function call

5. How many global scopes are there in a Python program? How many local scopes?

Ans.) In a python program, there is only one global scope for the complete program and it stays in existence until the whole code terminates. There is one local scope for every function in python’s program which is created upon function call and stays in existence until that function is terminated.

For example:-

global\_var= ‘My variable’ #inside global scope

def func():

local\_var = ‘My local variable’ #inside local scope

6. What happens to variables in a local scope when the function call returns?

Ans.) When the function call in python are returned, the local scope associated with is destroyed

and all the variables in it are cleared for freeing the memory and other resources.

7. What is the concept of a return value? Is it possible to have a return value in an expression?

Ans.) In python, the return values is the value returned to the function caller after the execution of the operation defined inside that function returning the resultant value.

For ex:-

def count(x): # function definition

y=[]

for I in range (x):

y.append(i)

return y # returning y ( List )

count(10)

The following function returns a list ‘y’ which is nothing but a collection of 0 to 10(x) count excluding 10.

8. If a function does not have a return statement, what is the return value of a call to that function?

Ans.) The return statement in a function immediately returns the current value of that variable to the caller and stops the rest of the execution of the rest of the code. The ‘return’ statement can also be used to give user defined return values despite of variables.

For Example:-

def example\_fun(): # function

return ‘This is an example function’ # User defined return statement

9. How do you make a function variable refer to the global variable?

Ans.) For referring global variable to a function variable, we need to import the global variable first in the function using its name followed by the ‘global’ keyword and the that variable’s name can be used to assign the global value of it to a local scope variable.

For ex -:

global\_variable = ‘ this is global variable’ #defining variable in global scope

def myFunc(): # defining function

global global\_variable # importing global variable inside local scope

local\_variable = global\_variable # refering local variable with global variable

print(local\_variable)

10. What is the data type of None?

Ans.) The None value is used to define a Null value variable in python which means that at that address of memory there is nothing stored and in python it points to an object of NoneType.

11. What does the sentence import areallyourpetsnamederic do?

Ans.) This statement will import a library named ‘areallyourpetsnamederic’ if it exists else it will throw an error of type ‘ModuleNotFoundError’.

12. If you had a bacon() feature in a spam module, what would you call it after importing spam?

Ans.) To call bacon() function from spam module after importing the module we will have to write the following command:-

spam.bacon()

13. What can you do to save a programme from crashing if it encounters an error?

Ans.) To save a program from crashing in python when an error is encountered we can use the try and except block in the code. If the try block throws an error user can define the steps to be followed in the except block and raise an error. The try and except block can be used with ‘else’ and ‘finally’ blocks. The ‘else’ block executes if no error is raised and ‘finally’ block always executes regardless of having any error or not.

The syntax of this code block goes as :-

try: #Defining the try block

{ actual code

}

except: #Defining except block

{ Code if the program encounters an error

}

14. What is the purpose of the try clause? What is the purpose of the except clause?

Ans.) The ‘try’ clause is used to handle errors and exceptions in the code by writing the actual code in it. If the code encounters any error in try clause, the try block terminates and the ‘except’ block is executed. The ‘except’ clause is mainly used for defining the errors and exceptions. The try and except block can contain more than one ‘except’ clause and the except clause with the Error-Type same as raised by the try block is executed.