**Assignment 3:**

**Submitted by Dr. Abhishek V. Hukkerikar**

**Note: The answers are in blue color**

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

We employ functions within a class. If we need to do any particular operation and intend to repeat it, we could easily assign an object to the class and call a function to do the desired operation. Additionally, this function could be added to code reducing time and space complexity.

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

When it is called.

**3. What statement creates a function?**

def function

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

A function is a block of code that does a particular operation and returns the result. It would accept the inputs as parameters and return the result.

Class function\_explain():

def add\_func(self,a,b):

self.a = a

self.b = b

return(a+b)

A function call on other hand is used to pass control to a function:

Obj = function\_explain()

Obj.add\_func() 🡪 is the call function

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

I am not sure of the question and assume that you are asking what local and global scope is.

A local scope is the area of a function where the variable is defined and can be accessed within that function only.

On the other hand, a global scope is the area outside of any function where a variable is defined and can be accessed by any function or method in the program.

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

When a function or method returns, the variables that were defined within that function or method’s local scope are no longer accessible. This is because the function or methods execution has been completed.

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

When a function is executed, and if return is mentioned, then the output of the function is delivered back. This is the premise of return value.

def add\_func(self,a,b):

self.a = a

self.b = b

return(a+b)

Here, the addition of the two integers is returned. It is possible to have return value in an expression. Now, if the return value is stored in a variable, then the outcome is also stored in it. For example, in the above example, if we add a statement:

Result = return (a+b)

Then we are returning the added value through an expression and storing it as result.

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

By default, the return value is none. If no return statement is present in a function, then the function will not return anything.

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

l = 11

def modify\_l():

global l

l = l + 1

modify\_l()

print(l)

In the code above, we have declared the l to be a global variable. So any function will be able to utilize the l value as 11 and make operation accordingly. We can declare a global variable by syntax *global.*

Importantly, if we try to change the value of the global variable without the ‘global’ keyword, it will be treated as a local variable and a new local variable will be created.

**10. What is the data type of None?**

The datatype of None is a special datatype called ‘NoneType’

**11. What does the sentence import areallyourpetsnamederic do?**

It will import the module areallyourpetsnamederic.

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

spam.bacon()

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

Use error logging and exception handling.

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

Normally, when we are not sure if the code will execute properly, then we place the code block in a try cell. Additionally, the if we intend to check the error when the code gets executed, is entered into the execute clause.