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

Ans:- Functions offer several advantages :-

a) Reusability & Modularity
b) Readability
c) Abstraction
d) Code Organization
e) Debugging & Maintenance

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

Ans:- The code within a function, runs when the function is called, not when it is specified or defined.

3. What statement creates a function?

Ans:- In Python, we create a function using the def statement. The syntax for creating a function in Python is as follows:

def function_name(parameter):

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

Ans:- **Function:-** A function is a self-contained block of code that performs a specific task. It's a named sequence of statements that can take inputs (parameters), process them, and optionally return a result. Functions are defined using the def keyword and serve as reusable building blocks within a program.

```
Ex:- def greet(name):

    print(f”Hello1, {name}”)
```

Function call:- A function call, also known as executing a function, is the act of using the function to perform its defined task. When we call a function, we provide any required arguments (inputs), and the function executes its code, producing a result if applicable

Ex:- greet(“Alice”)

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

Ans:- There is only one global scope throughout the entire python program & there can be multiple local scopes ,each corresponding to a function or method definition.

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

Ans:- When a function call in Python returns, the local variables that were created within that function's local scope are destroyed, and the memory allocated to those variables is reclaimed.

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

Ans:- The concept of a return value refers to the value that a function provides back to the code that called it. When a function is executed, it can perform computations, manipulate data, or carry out various tasks. The return value is a way for the function to communicate the result of its work to the caller.

Yes it possible to have a return value in an expression.

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

Ans:- If a function does not have a return statement, or if the return statement is without a value (i.e., return without any expression), the function will implicitly return a special value called None.

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

Ans:- If we have a local variable with the same name as a global variable and we want to access the global variable's value within a function, we can use the global keyword. This keyword allows us to explicitly declare that we are referring to a global variable, rather than creating a new local variable with the same name.

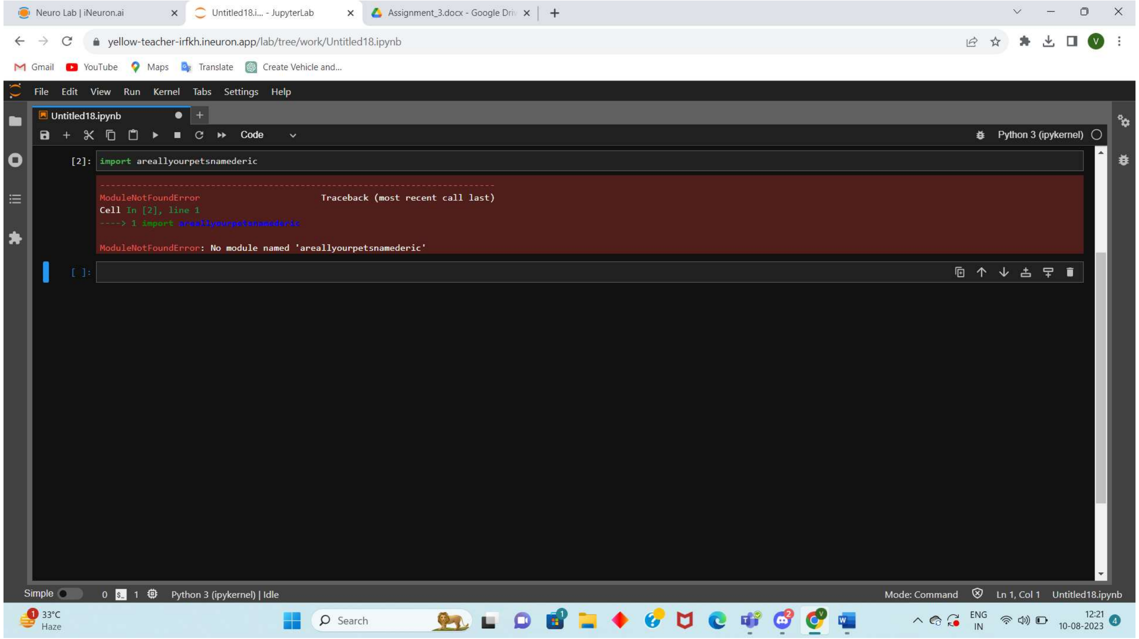
10. What is the data type of None?

Ans:- None itself is of the data type called NoneType.

None is a special constant that represents the absence of a value or a null value. It is often used to indicate that a variable or expression does not hold any meaningful value.

11. What does the sentence import areallyourpetsnamederic do?

Ans:- The sentence "import areallyourpetsnamederic" is not a standard or valid Python code import statement. Therefore, attempting to execute this line of code in a Python interpreter would likely result in a ModuleNotFoundError because Python would not be able to find a module named "areallyourpetsnamederic".



```
[2]: import areallyourpetsnamederic

---------------------------------------------------------------------------
ModuleNotFoundError                       Traceback (most recent call last)
Cell In [2], line 1
----> 1 import areallyourpetsnamederic

ModuleNotFoundError: No module named 'areallyourpetsnamederic'

[ ]:
```

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

Ans:- After importing spam:-

```
import spam

spam.bacon()
```

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

Ans:- To prevent a program from crashing when it encounters an error, we can implement error handling mechanisms using try-except blocks (also known as exception handling).

This allows us to catch and handle errors gracefully, providing better user experience and preventing the program from abruptly terminating.

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

Ans:- **Purpose of the try clause:-**

The try clause is used to enclose a block of code where we expect an exception might occur. The purpose of the try clause is to set up a guarded region where we want to monitor for exceptions. If an exception occurs within the try block, the code execution is immediately transferred to the appropriate except block.

Purpose of the except clause:-

The except clause is used to define a block of code that will be executed if an exception of the specified type (or a subclass of that type) occurs within the corresponding try block. The purpose of the except clause is to catch and handle exceptions, providing alternative paths or error messages to the user.