**Python assignment 3**

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

* Modularity**:** Functions allow you to break down complex tasks into smaller, manageable pieces.
* Reusability**:** Once defined, functions can be called multiple times from different parts of the program.
* Readability**:** Functions enhance the readability of your code by abstracting away implementation details.
* Maintainability**:** Functions make it easier to debug and maintain code because changes made within a function don’t affect other parts of the program directly.

1. **When does the code in a function run: when it&#39;s specified or when it&#39;s called?**
2. **What statement creates a function?**

def my\_function():

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

* Function**:** A function is a block of code that performs a specific task when called.
* Function **call:** A function call is the act of invoking the function to execute its code. It uses the function's name followed by parentheses ().

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

* **Global scopes:** There is one global scope per Python program. It persists throughout the program's execution and holds globally defined variables and functions.
* **Local scopes:** Local scopes are created whenever a function is called. They exist only during the function’s execution and contain variables and parameters specific to that function.

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

Variables in a local scope cease to exist once the function call returns. They are destroyed, and any data they held is no longer accessible

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

A return value is the value that a function evaluates to when it completes its task. It is specified using the return statement. Yes, it is possible to use a return value in an expression, such as assigning it to a variable or using it directly in calculations.

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

If a function does not have a return statement, its return value is None. None represents the absence of a value.

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

def my\_function():

global my\_var

my\_var = 10

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

The data type of None is NoneType. It represents the absence of a value.

1. **What does the sentence import areallyourpetsnamederic do?**
2. **If you had a bacon() feature in a spam module, what would you call it after importing spam?**
3. **What can you do to save a programme from crashing if it encounters an error?**

Use exception handling with try and except blocks to catch and handle errors gracefully. This prevents the program from terminating abruptly.

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

**try clause:** Contains the code that you want to execute where an exception might occur.

**except clause:** Catches and handles specific exceptions that occur within the try block. It allows you to provide alternative code or handle the error condition gracefully.