**What is a function?  Describe how functions work in Python. In particular, discuss:**

A function is a collection of statements that work together to complete a certain goal. Functions aid in the decomposition of programs into smaller, modular chunks. The functions become more ordered and manageable as the program develops in size.

Def sum\_function(first,second):

Return (first+second)

1. **As regards the use of functions in programming, distinguish between parameters and arguments.**

Parameters are variables in the function definition that are enclosed in parentheses.

When a way is called, arguments are data that you give into method parameters.

1. **What is the difference between global and local scope as regards variables in a program?**

A variable created within a function can only be utilized within the function's local scope. A global variable is one that is created in the main body of Python code and is part of the global scope of variables. Global variables can be used in any scope, both global and local.

1. **List and explain three advantages of the use of functions.**

The usage of functions improves a program's readability. It's usually tough to read a large code. Breaking the code down into smaller Functions makes the software more structured, understandable, and reusable. Because the compiler uses top-to-bottom execution, the control ow in functions may be readily regulated. The control will return to the main() function at all times. It provides software with a modular structure and decreases its complexity.

* Getting rid of code duplication: It keeps us from rewriting the same reasoning again and over. We can tie logic in a definition and then continually call the precise definition.
* Taking big issues and breaking them down into manageable chunks: It is beneficial to break huge programs into little pieces so that we can read and debug the code more quickly and effectively.
* Enhancing the code's readability: Call the same procedure many times with different inputs.

1. **Describe the ‘Top Down’ design approach and how it is used in problem-solving.**

A well-structured program requires a top-down design method, often known as step-by-step refining. This problem-solving method involves deliberately breaking down a big problem into smaller, more manageable components.