**Python-Functions**

1. What does the len() function do in Python? Write a code example using len() to find the length of a list.

Function len() is used find the length (no. of items) of the data structures like string,tuple,list etc.In the given example the variable fruits is assigned with a list of fruits name. The length of list is find using the function len().

1. Write a Python function greet(name) that takes a person's name as input and prints "Hello, [name]!".

The function greet is defined as def greet() by passing the argument which is the name of the

Person.

1. Write a Python function find\_maximum(numbers) that takes a list of integers and returns the maximum value without using the built-in max() function. Use a loop to iterate through the list and compare values.

* List of integers is assigned to the variable “number”.
* Function maximum is defined as def maximum by passing the argument number.
* Assigning 1st number in the list number which is 100 as max\_no. so max\_no=100
* Using a for loop and checking each element in the list with the max\_no, the maximum number is found out and the value is returned.

1. Explain the difference between local and global variables in a Python function. Write a program where a global variable and a local variable have the same name and show how Python differentiates between them.

A local variable is declared inside a function. It is accessible only within that function.

A global variable is declared outside the functions and is accessible inside and outside the function.

1. Create a function calculate\_area(length, width=5) that calculates the area of a rectangle. If only the length is provided, the function should assume the width is 5. Show how the function behaves when called with and without the width argument

In the example function calculate\_area is defined by passing arguments for length and by setting default value for width as 5.

Here, the function is first called by passing both the argument and the function uses argument values which is passed to calculate area. This comes under positional argument as the first value can be default or can pass value and the second argument is default.

In the second case, the only first argument which is length is only passed and hence the function takes default value for width while calculating the area. This type of argument is called default argument.