

#### Module -4

1. Illustrate the concept of modifier with Python code.
2. Explain `init` and `__str__` method with an example Python Program.
3. Define polymorphism? Demonstrate polymorphism with function to find histogram to count the number of times each letter appears in a word and in a sentence.
4. Illustrate the concept of pure function with Python code.
5. Define Class Diagram. Discuss the need for representing class relationships using Class Diagram with suitable example.
6. Define classes and objects in Python. Create a class called Employee and initialize it with employee id and name. Design methods to:
  - (i) `setAge_to` to assign age to employee.
  - (ii) `setSalary_to` to assign salary to the employee.
  - (iii) `Display_to` to display all information of the employee.
7. Define class and object? What are programmer defined types? Explain with example.
8. What is the difference between method and function? Explain the working of `init` method with suitable code.
9. Define attribute? With the help of python code, explain how functions return instance values.
10. What is type based dispatch? Illustrate with python example.
11. How class can be instantiated in python? Write a python program to express instances as return values to define a class RECTANGLE with members width, height, `corner_x`, `corner_y` and member function , to find center area and perimeter of rectangle.
12. Write a python program to find duration of event if start and end time is given by defining class TIME.