Python Programming

Practice – 8

Overview

This practice reinforces us to understand the Object-Oriented features of Python.

- *Define Class and Instantiate Objects.*
- *Access Attributes and Methods.*
- *Class Variables.*
- *Understand Encapsulation, Information Hiding & Inheritance.*
- *Perform instance test with objects.*
- *Perform subclass test in Inheritance.*

We shall put these elements in creating Python programs in this practice session.

Hands On

1. Create a class by name "**Person**" who's object hold the following information

   The Name, Gender and Age of the person
   Gender is either "M" or "F".
   Age should be between 1 and 99 only

   Write appropriate methods to initialize the object, display the objects data.

2. Create a class by name "**Date**" who's objects hold the day, month and the year.

   Write appropriate methods to perform the following:
   [a] Initialize the date object
   [b] Display the date in dd/mm/yyyy i.e. **British Format**
   [c] Display the date in mm/dd/yyyy i.e. **American Format**
   [d] Return only the day, the month or the year
   [e] Display the date in dd-mon-yyyy format. Where mon represents Jan, Feb..
   [d] Display the date in long format. 12, January 2004

   Ensure that the date object holds a valid date. Otherwise display appropriate error message.

3. Write a program to illustrate Class Variables.

4. Use the special method **__del__** with the "**Person**" and the "**Date**" class and record your observation.

Compiled By : *Mohammed Mukthar Ahmed*

5. Write a program to illustrate Inheritance.

6. Create a class by name “Employee” which inherits the “Person” class attributes and methods, besides adds additional attributes like designation, and salary.
7. Write a program to illustrate multiple inheritance.

8. Using the name mangling mechanism, perform information hiding.

9. Perform the **isinstance( )** and **issubclass( )** tests on the Employee and Person objects.