Department of Computer Applications
PESU
MCA III Sem
Python Programming

Assignment 7

Use the concept of Object Oriented Programming to create the following

1. Create a class to read and add two distance. Use two member functions get_distance and show_distance that reads and displays the distance in kms and mts. Use a class variable that counts the different values stored. Use add_distance to add the distances.
2. Read time in seconds and convert seconds in HH:MM:SS format using class.
3. Use inheritance and display the results of students. Class student consists of name, srn, gender. Class Stud_res inherits student and consists of ISA, ESA, SGPA and CGPA. Use corresponding member functions.
4. Use multiple inheritance – Class Basic_info – name, id, age, gender; Class Dept_info – dept_name, assigned_work, time_comp; Class Employee inherits both Basic_info and Dept_info that displays the information of every employee.
5. Create a class Bank – id, type, balance. Use functions that display the information and either allow for deposit or withdraw and display the final balance after a transaction. Also count the number of transactions per customer.
6. Create a class Complex – img, real. Use operator overloading to
    a. Multiply two complex numbers.
    b. Divide two complex numbers.
7. Create a class called point that has two instance variables x and y. Use operator overloading to find the
    a. Distance between two points.
    b. Compare P1 and P2 (greater or lesser).
    c. Check if they are present in the opposite quadrants.
8. Create a base class called shape that has the methods get_color and set_color which gets and sets the border color. The constructor sets the default color to black. Create a derived class Rectangle that inherits the base class and has the methods get_length, get_breadth, set_length, set_breadth that gets and sets the length and the breadth, get_area, get_parameter that calculates the area and perimeter of a rectangle. Create a derived class Circle that inherits the base class and has the methods get_radius, set_radius, that gets and sets the radio, get_area, get_parameter that calculates the area and perimeter of a circle.