LAB ASSIGNMENTS

PYTHON PROGRAMMING LAB

MCA 1st Year 1st Semester, 2022

Subject Code: MCAP1112

Day 6

1. Define a class Employee to store information of an employee (empNo, name, department, basicPay, DA, HRA and grossSalary). Write a constructor which will take as input the empNo, name, department, basicPay for several employees. The program will calculate the DA, HRA and total for each employee and define a method to display the details of the employee having the highest gross salary.
2. Write a script that accepts two command line arguments and checks that exactly two command line arguments are passed, no less or no more, and that the first argument is an integer and the second is a string. Make useful feedback if they are not.

   [To read command line arguments import sys and use sys.argv[ ]

   Or,

   import argparse and use parse_args() of ArgumentParser()]
3. import re and write scripts to achieve the following:

   (i) accept a mobile number as input, and if it starts with 00, replace the 00 with 91

   (ii) takes a word as input and satisfy the requirements that it should be of 5 letters, starts with 'c' and ends with 'r'

   (iii) assume a product cataloging system has the following requirements:

   first symbol: an uppercase character

   second symbol: a digit

   third symbol: the special character @

   fourth symbol: a lowercase character

   write a script that accepts an id and checks whether it is in correct format or not

   (iv) check whether a given mail id is in valid format or not.
4. Create a base class called Shape. Use this class to store values that could be used to compute the area of figures. Derive two specific classes called Triangle and Rectangle from the base Shape. Add to the base class, a constructor to initialize base class data members and another method display_area ( ) to compute and display the area of figures. Redefine this method in the derived classes to suit their requirements. Use these three classes to design a program that will accept dimensions of a triangle and rectangle and display the area.