Date: 22.09.2021

Ex. No. 3

Python Classes II

1. Write a Python class, Flower, that has three instance variables of type str, int, and float, that respectively represent the name of the flower, its number of petals, and its price. Your class must include a constructor method that initializes each variable to an appropriate value, and your class should include methods for setting the value of each type and retrieving the value of each type.

2. Develop an inheritance hierarchy based upon a Polygon class that has abstract methods area () and perimeter (). Implement classes Triangle, Quadrilateral, Pentagon, Hexagon, and Octagon that extend this base class, with the obvious meanings for the area () and perimeter () methods. Also implement classes, IsoscelesTriangle, EquilateralTriangle, Rectangle, and Square, that have the appropriate inheritance relationships. Finally, write a simple program that allows users to create polygons of the various types and input their geometric dimensions, and the program then outputs their area and perimeter. For extra effort, allow users to input polygons by specifying their vertex coordinates and be able to test if two such polygons are similar.