Task 1

Implement the design of the **Calculator** class so that the following output is produced:

Driver Code	Output
# Write your code here c1 = Calculator() print("==========") val = c1.calculate(10, 20, '+') print("Returned value:", val) c1.showCalculation() print("==========") val = c1.calculate(val, 10, '-') print("Returned value:", val) c1.showCalculation() print("==========") val = c1.calculate(val, 5, '*') print("Returned value:", val) c1.showCalculation() print("==========") val = c1.calculate(val, 16, '/') print("Returned value:", val) c1.showCalculation()	Calculator is ready! ========== Returned value: 30 10 + 20 = 30 ========== Returned value: 20 30 - 10 = 20 ========== Returned value: 100 20 * 5 = 100 ========== Returned value: 6.25 100 / 16 = 6.25

Task 2

Task 2

Design a class Shape for the given code below.

• Write a class Shape.

• Write the required constructor that takes 3 parameters and initialize the instance variables accordingly.

• Write a method area() that prints the area.

Hint: the area method can calculate only for the shapes: Triangle, Rectangle, Rhombus, and Square. So, you have to use conditions inside this method

For this task, assume that --

- for a triangle, the arguments passed are the base and height
- for a rhombus, the arguments passed are the diagonals
- for a square or rectangle, the arguments passed are the sides.

Driver Code	Output
# Write your code here triangle = Shape("Triangle",10,25) triangle.area() print("==========") square = Shape("Square",10,10) square.area() print("==========") rhombus = Shape("Rhombus",18,25) rhombus.area() print("==========") rectangle = Shape("Rectangle",15,30) rectangle.area() print("==========")	Area: 125.0 ========== Area: 100 ========== Area: 225.0 ========== Area: 450 ========== Area: Shape unknown

trapezium = Shape("Trapezium",15,30) trapezium.area()	