

# Aim: WAP to find area of circle, rectangle and triangle using objects and classes.

# Branch: Comps

# Year: SE

# Sem: IV

# Subject: Python

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import math

class Shape:

def area(self):

pass # This is a base class with no implementation

class Circle(Shape):

def \_\_init\_\_(self, radius):

self.radius = radius

def area(self):

return math.pi \* self.radius \* self.radius

class Rectangle(Shape):

def \_\_init\_\_(self, length, width):

self.length = length

self.width = width

def area(self):

return self.length \* self.width

```
class Triangle(Shape):  
    def __init__(self, base, height):  
        self.base = base  
        self.height = height  
  
    def area(self):  
        return 0.5 * self.base * self.height
```

# Example usage

```
radius = float(input("Enter radius of the circle: "))  
circle = Circle(radius)  
print(f"Area of Circle: {circle.area():.2f}")
```

```
length = float(input("Enter length of the rectangle: "))  
width = float(input("Enter width of the rectangle: "))  
rectangle = Rectangle(length, width)  
print(f"Area of Rectangle: {rectangle.area():.2f}")
```

```
base = float(input("Enter base of the triangle: "))  
height = float(input("Enter height of the triangle: "))  
triangle = Triangle(base, height)  
print(f"Area of Triangle: {triangle.area():.2f}")
```

Python 3.12.1 (tags/v3.12.1:2305ca5, Dec 7 2023, 22:03:25) [MSC v.1937 64 bit (AMD64)] on win32  
Type "help", "copyright", "credits" or "license()" for more information.

===== RESTART: C:/Users/Student/Desktop/pl6.py ===

Enter radius of the circle: 4  
Area of Circle: 50.27  
Enter length of the rectangle: 5  
Enter width of the rectangle: 5  
Area of Rectangle: 25.00  
Enter base of the triangle: 4  
Enter height of the triangle: 5  
Area of Triangle: 10.00  
|