1. Write a Python program to create a class representing a Circle. Include methods to calculate its area and perimeter.

In [ ]:
```
class Circle:
    def __init__(self, radius):
        self.radius = radius

    def calculate_area(self):
        import math
        return math.pi * self.radius ** 2

circle_1 = Circle(5.0)

print("Area of the circle:", circle_1.calculate_area())
```

2. Write a Python program to create a calculator class. Include methods for basic arithmetic operations.

In [ ]:
```python
class Calculator:
    def add(self, num1, num2):
        return num1 + num2

    def subtract(self, num1, num2):
        return num1 - num2

    def multiply(self, num1, num2):
        return num1 * num2

    def divide(self, num1, num2):
        if num2 != 0:
            return num1 / num2
        else:
            return "Division by zero is not allowed."

# Create a Calculator object
calculator = Calculator()

# Test the methods with different values
result_addition = calculator.add(10, 5)
result_subtraction = calculator.subtract(20, 7)
result_multiplication = calculator.multiply(8, 4)
result_division = calculator.divide(15, 3)

# Print the results
print("Addition:", result_addition)
print("Subtraction:", result_subtraction)
print("Multiplication:", result_multiplication)
print("Division:", result_division)
```

3. Write a Python program to create a class that represents a shape. Include methods to calculate its area and perimeter. Implement subclasses for different shapes like circle, triangle, and square.

In [ ]:

```
import math

class Shape:
    def area(self):
        pass

    def perimeter(self):
        pass

class Circle(Shape):
    def __init__(self, radius):
        self.radius = radius

    def area(self):
        return math.pi * self.radius**2

    def perimeter(self):
        return 2 * math.pi * self.radius

class Triangle(Shape):
    def __init__(self, side1, side2, side3):
        self.side1 = side1
        self.side2 = side2
        self.side3 = side3

    def area(self):
        s = (self.side1 + self.side2 + self.side3) / 2
        return math.sqrt(s * (s - self.side1) * (s - self.side2) * (s - self.sid

    def perimeter(self):
        return self.side1 + self.side2 + self.side3

class Square(Shape):
    def __init__(self, side):
        self.side = side

    def area(self):
        return self.side**2

    def perimeter(self):
        return 4 * self.side

# Example usage:
if __name__ == "__main__":
    circle = Circle(5)
    print(f"Circle - Area: {circle.area()}, Perimeter: {circle.perimeter()}")

    triangle = Triangle(3, 4, 5)
    print(f"Triangle - Area: {triangle.area()}, Perimeter: {triangle.perimeter()

    square = Square(4)
    print(f"Square - Area: {square.area()}, Perimeter: {square.perimeter()}")
```