Task 5

In [1]:
```
# 1. Write a Python program to create a class representing a Circle. Include methods to calculate its area and perimeter.
```

In [5]:
```
class circle:
    def __init__(self,radius):
        self.radius=radius
    def area(self):
        print("Area of the circle:",pi*self.radius**2)
    def perimeter(self):
        print("Perimeter of the circle:",2*pi*self.radius)
pi=3.14
x=circle(2)
x.area()
x.perimeter()
```

```
Area of the circle: 12.56
Perimeter of the circle: 12.56
```

In [ ]:
```
#2. Write a Python program to create a calculator class. Include methods for basic arithmetic operations.
```

In [14]:
```
class calculator_class:
    def __init__(self,m,n):
        self.m=m
        self.n=n
    def addition(self):
        print("Sum:",self.m+self.n)
    def subtraction(self):
        print("Difference:",self.m-self.n)
    def multiplication(self):
        print("Product:",self.m*self.n)
    def division(self):
        print("Quotient:",self.m/self.n)

x=calculator_class(8,4)
x.addition()
x.subtraction()
x.multiplication()
x.division()
```

```
Sum: 12
Difference: 4
Product: 32
Quotient: 2.0
```

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

In [33]:
```
class shape:
    def area(self):
        pass
    def perimeter(self):
        pass
class circle(shape):
    def __init__(self,radius):
        self.radius=radius
    def area(self):
        print("Area of the circle:",3.14*self.radius**2)
    def perimeter(self):
        print("Perimeter of the circle:",2*3.14*self.radius)
class triangle(shape):
    def __init__(self,S1,S2,S3,base,height):
        self.S1=S1
        self.S2=S2
        self.S3=S3
        self.base=base
        self.height=height
    def area(self):
        print("Area of the triangle:",0.5*self.base*self.height)
    def perimeter(self):
        print("Perimeter of the triangle:",self.S1+self.S2+self.S3)
class square(shape):
    def __init__(self,S1):
        self.S1=S1
    def area(self):
        print("Area of the square:",self.S1**2)
    def perimeter(self):
        print("Perimeter of the square:",4*self.S1)
```

```
x=circle(2)
y=triangle(3,4,5,4,5)
z=square(3)
x.area()
x.perimeter()
y.area()
y.perimeter()
z.area()
z.perimeter()
```

```
Area of the circle: 12.56
Perimeter of the circle: 12.56
Area of the triangle: 10.0
Perimeter of the triangle: 12
Area of the square: 9
Perimeter of the square: 12
```