In [5]:
```
import math

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

    def calculate_area(self):
        print("Area : ", math.pi * self.radius ** 2)

    def calculate_perimeter(self):
        print("Perimeter : ", 2 * math.pi * self.radius)

radius = float(input("Enter the radius of the circle: "))
circle = Circle(radius)
circle.calculate_perimeter()
circle.calculate_area()
```

```
Enter the radius of the circle: 5
Perimeter :  31.41592653589793
Area :  78.53981633974483
```

In [11]:
```
class Calculator:
    def __init__(self,x,y):
        self.x=x
        self.y=y
    def add(self):
        total= x + y
        print(f"{self.x} + {self.y} = {total}")

    def subtract(self):
        total= x - y
        print(f"{self.x} - {self.y} = {total}")

    def multiply(self):
        total= x * y
        print(f"{self.x} * {self.y} = {total}")

    def divide(self):
        if y == 0:
            print("Cannot divide by zero")
        total= x / y
        print(f"{self.x} / {self.y} = {total}")

x=float(input('enter the number1 : '))
y=float(input('enter the number2 : '))
calculate = Calculator(x,y)
calculate.add()
calculate.subtract()
calculate.multiply()
calculate.divide()
```

```
enter the number1 : 12
enter the number2 : 5
12.0 + 5.0 = 17.0
12.0 - 5.0 = 7.0
12.0 * 5.0 = 60.0
12.0 / 5.0 = 2.4
```

In [15]:
```
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):
        print("Area of Circle : ",math.pi * self.radius ** 2)

    def perimeter(self):
        print("Perimeter of Circle : ", 2 * math.pi * self.radius)

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

    def area(self):
        print("Area of Triangle : ", 0.5 * self.base * self.height)
```

```
    def perimeter(self):
        print("Perimeter of Triangle : ", self.side1 + self.side2 + self.side3)

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

    def area(self):
        print("Area of Square : ", self.side ** 2)

    def perimeter(self):
        print("Perimeter of Square : ", 4 * self.side)

circle=Circle(4)
circle.area()
circle.perimeter()

triangle=Triangle(3,4,5,6,7)
triangle.area()
triangle.perimeter()

square=Square(5)
square.area()
square.perimeter()
```

```
Area of Circle :  50.26548245743669
Perimeter of Circle :  25.132741228718345
Area of Triangle :  6.0
Perimeter of Triangle :  18
Area of Square :  25
Perimeter of Square :  20
```

In [ ]: