Arithmetic Operators:

Operators can be categorized as:

1. Unary operators. Eg -12
2. Binary operators. Eg. 2+3
3. Ternary operators: [on_true] if [expression] else [on_false]

1. Unary Operator

```
# + and - sign before number play the role of unary operator
a=-2
print(a)
```

```
-2
```

```
# Increment operator is invalid in Python
a++
```

```
  File "<ipython-input-4-22e3d6dc1353>", line 1
    a++
      ^
SyntaxError: invalid syntax
```

SEARCH STACK OVERFLOW

2. Binary Operator

1. Addition (+)
2. Subtraction (-)
3. Multiplication (*) : Eg. 25 * 10 ⇒ 250
4. True Division (/) : Eg. 25/10 ⇒ 2.5
5. Truncating Division (//): Eg. 25//10 ⇒ 2 Eg. 25//10.0 ⇒ 2.0
6. Modulus Operator (%) : Eg. 25%10 ⇒ 5
7. Exponentiation (**): Eg. 2^3 ⇒ 2**3 ⇒ 8

```
a = int(input('Enter any number:'))
b = int(input('Enter any number:'))
```

```
Enter any number:3
Enter any number:5
```

```
# Addition
a+b
```

```
8
```

```
# Subtraction
a-b
```

```
-2
```

```
# Multiplication
a*b
```

```
15
```

```
# True Division
b/a
```

```
1.6666666666666667
```

```
# Truncating Division (//): Gives the integer part as output
b//a
```

```
1
```

```
# Modulus Operator (%): Gives remainder
b%a
```

```
2
```

```
# Exponentiation ( ** )
b**a
```

```
125
```

3. Ternary Operator

Syntax: [on_true] if [expression] else [on_false]

```
print("a" if a> b else "b")
```

```
b
```

```
print(a if a> b else b)
```

```
5
```

4. Operator Precedence and Associativity

4.1 Operator Precedence Rule (Precedence from top to Bottom)

1. Exponentiation (**)
2. Negation (-)
3. Multiplication (*), True Division (/), Truncating Division (//), Modulus (%)
4. Addition (+), Subtraction (-)

4.2 Operator Associativity Rule If in the arithmetic expresion there exist multiple operators with same priority, then the one that lies on the left side will be operated first.

```
2*3%2
```

```
0
```

```
2*3**2
```

```
18
```

Assignment:

1. Implement all the examples mentioned above.
2. Write a program to determine the area of a rectangle.
3. Write a program to determine the area of a circle.
4. Write a program to determine the average of three numbers entered by the user.
5. Write a program to concatenate three strings.