

Python Chapter 2: Math

Contents

Python Chapter 2: Math	1
Math Operators and Operands	1
The Modulus Operator (%)	2
Pseudocode	2
Requirements	2
TODO	3
Assignment Submission.....	3



Red light, No AI

Time required: 60 minutes

- Comment each line of code as shown in the tutorials and other code examples.
- Follow all directions carefully and accurately.
- Think of the directions as minimum requirements.

Math Operators and Operands

Symbol	Operation	Example	Description
+	Addition	$a + b$	Adds two numbers
-	Subtraction	$a - b$	Subtracts one number from another
-	Negation	$- a$	Change sign of operand
*	Multiplication	$a * b$	Multiplies one number by another
/	Division	a / b	Divides one number by another and gives the result as a floating-point number

//	Integer division	a // b	Divides one number by another and gives the result as a whole number
%	Remainder or Modulus	a % b	Divides one number by another and gives the remainder
**	Exponent	a ** b	Raises a number to a power

The Modulus Operator (%)

- The **modulus operator** returns the **remainder** after dividing one integer by another.
- In Python, it is represented by the **percent sign %**.

```
quotient = 7 // 3
print(quotient) # Output: 2

remainder = 7 % 3
print(remainder) # Output: 1
```

7 divided by 3 is 2 with 1 left over.

The modulus operator turns out to be surprisingly useful. For example, you can check whether one number is divisible by another: if $x \% y$ is zero, then x is divisible by y .

You can also extract the right-most digit or digits from a number. For example, $x \% 10$ yields the right-most digit of x (in base 10). Similarly, $x \% 00$ yields the last two digits.

Pseudocode

- Write pseudocode or TODO for the exercise
- Submit with the assignment

Requirements

Write a Python program that asks a user for 2 float numbers.

Create a Python program named **math_1.py** that performs the following operations and shows the results.

NOTE: You cannot name a Python program **math.py** as that will conflict with the built in Python **math** module.

1. Add numbers
2. Subtract numbers
3. Multiply numbers
4. Divide numbers
5. Integer division
6. Modulus result
7. Calculate average
8. Display the operations and answers as shown below.

TODO

```
# TODO: Get two float numbers from the user  
  
# TODO: Perform math operations and assign the result to a unique variable  
  
# TODO: Display the result of each calculation to 2 decimal points
```

Example run:

```
Enter a number: 6.52  
Enter another number: 2.654  
6.52 + 2.654 = 9.17  
6.52 - 2.654 = 3.87  
6.52 * 2.654 = 17.30  
6.52 / 2.654 = 2.46  
6.52 // 2.654 = 2.00  
6.52 % 2.654 = 1.21  
Average 6.52 2.654 = 4.59
```

Assignment Submission

1. Attach the pseudocode.
2. Attach the program files.
3. Attach screenshots showing the successful operation of the program.
4. Submit in Blackboard.