**Topic 6 - Math Expressions: Unfamiliar Operators**

**1. The Modulo Operator %**

A new operator, %, called the **modulo operator**, finds the remainder when one number is divided by another.

For example:

***whats\_left\_over = 10 % 3***

In this case, Python divides 10 by 3, and the remainder is 1, so whats\_left\_over is assigned a value of 1.

**Tip:** When a number divides evenly into another (with no remainder), the result is 0. For instance:

***whats\_left\_over = 9 % 3***

***# whats\_left\_over will be 0***

**2. Incrementing and Decrementing with += and -=**

If you want to **increase the value of a variable by a certain number**, there’s a convenient shorthand:

***age = 54***

***age += 1***

***# age now becomes 55***

This is equivalent to writing age = age + 1, but it’s quicker and more readable.

You can use this shorthand with other numbers and other operations:

*age = 12*

*age += 50 # age becomes 62*

*age -= 2 # age becomes 60*

**3. Multiplication Shorthand with \*=**

The same shorthand works with multiplication. Instead of writing age = age \* 3, you can simply write:

***age = 12***

***age \*= 3 # age becomes 36***

**4. Combining Variables**

You can also use one variable to adjust another:

***age = 12***

***amount\_to\_increment = 3***

***age += amount\_to\_increment # age becomes 15***

**Conclusion**: These operators help you write more concise, readable code. Try experimenting with the %, +=, -=, and \*= operators to make calculations faster and easier.