Module 1 Summary: Python Basics

Congratulations! You have completed this module. At this point, you know that:

- Python can distinguish among data types such as integers, floats, strings, and Booleans.
- Integers are whole numbers that can be positive or negative.
- Floats include integers as well as decimal numbers between the integers.
- You can convert integers to floats using typecasting and vice-versa.
- You can convert integers and floats to strings.
- You can convert an integer or float value to True (1) or False (0).
- Expressions in Python are a combination of values and operations used to produce a single result.
- Expressions perform mathematical operations such as addition, subtraction, multiplication, and so on.
- We can use // to perform integer division, which results in an integer value by discarding the fractional part.
- Python follows the order of operations (BODMAS) to perform operations with multiple expressions.
- Variables store and manipulate data, allowing you to access and modify values throughout your code.
- The assignment operator "=" assigns a value to a variable.
- ":" denotes the value of the variable within the code.
- Assigning another value to the same variable overrides the previous value of that variable.
- You can perform mathematical operations on variables using the same or different variables.
- Modifying the value of one variable will affect other variables only if they reference the same mutable object.
- Python string operations involve manipulating text data using tasks such as indexing, concatenation, slicing, and formatting.

- A string is usually written within double quotes or single quotes, including letters, white space, digits, or special characters.
- A string attaches to another variable and is an ordered sequence of characters.
- Characters in a string identify their index numbers, which can be positive or negative.
- We use strings as a sequence to perform sequence operations.
- You can input a stride value to perform slicing while operating on a string.
- Operations like finding the length of the string, combining, concatenating, and replicating, result in a new string.
- You cannot modify an existing string; they are immutable.
- You can use escape sequences with a backslash (\) to change the layout of a string. (For example, \n for a new line, \t for a tab, and \\ for a backslash, etc.)
- In Python, you perform tasks such as searching, modifying, and formatting text data with its pre-built string methods functions.
- You apply a method to a string to change its value, resulting in another string.
- You can perform actions such as changing the case of characters in a string, replacing items in a string, finding items in a string, and so on using pre-built string methods.