**Python Basics**

* Python can distinguish among data types such as integers, floats, strings, and Booleans.
* Integers are whole numbers that can be positive or negative.
* Floats are numbers that have decimal points; they can represent whole or fractional values.
* 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 to a Boolean: 0 becomes False, non-zero becomes True.
* 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.
* 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 can be assigned to a variable and is an ordered sequence of characters.
* Characters in a string identify their index numbers, which can be positive or negative.
* Strings are sequences that support operations like indexing and slicing.
* You can input a stride value to perform slicing while operating on a string.
* Operations like concatenation and replication produce new strings, while finding the length of a string returns a number.
* 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.
* 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.