## **Module 1 Cheat Sheet: Python Basics**

Package/Method	Description	Code Example
Comments	Comments are lines of text that are ignored by the Python interpreter when executing the code	# This is a comment
Concatenation	Combines (concatenates) strings.	<pre>Syntax:     concatenated_string = string1 + string2 Example:     result = "Hello" + " John"</pre>
Data Types	- Integer - Float - Boolean - String	Example:  x=7  # Integer Value y=12.4  # Float Value is_valid = True # Boolean Value is_valid = False # Boolean Value F_Name = "John" # String Value
Indexing	Accesses character at a specific index.	Example:  my_string="Hello"  char = my_string[0]
len()	Returns the length of a string.	Syntax:  len(string_name)  Example:  my_string="Hello" length = len(my_string)
lower()	Converts string to lowercase.	Example:  my_string="Hello" uppercase_text = my_string.lower()
print()	Prints the message or variable inside `()`.	Example:  print("Hello, world") print(a+b)
Python Operators	<ul> <li>- Addition (+): Adds two values together.</li> <li>- Subtraction (-): Subtracts one value from another.</li> <li>- Multiplication (*): Multiplies two values.</li> <li>- Division (/): Divides one value by another, returns a float.</li> <li>- Floor Division (//): Divides one value by another, returns the quotient as an integer.</li> <li>- Modulo (%): Returns the remainder after division.</li> </ul>	<pre>Example:     x = 9 y = 4     result_add= x + y # Addition     result_sub= x - y # Subtraction     result_mul= x * y # Multiplication     result_div= x / y # Division     result_fdiv= x // y # Floor Division     result_mod= x % y # Modulo</pre>
replace()	Replaces substrings.	<pre>Example:     my_string="Hello"     new_text = my_string.replace("Hello", "Hi")</pre>
Slicing	Extracts a portion of the string.	<pre>Syntax:     substring = string_name[start:end] Example:     my_string="Hello" substring = my_string[0:5]</pre>
split()	Splits string into a list based on a delimiter.	<pre>Example:     my_string="Hello"     split_text = my_string.split(",")</pre>
strip()	Removes leading/trailing whitespace.	<pre>Example:     my_string="Hello"     trimmed = my_string.strip()</pre>
upper()	Converts string to uppercase.	Example:  my_string="Hello"

		<pre>uppercase_text = my_string.upper()</pre>
Variable Assignment	Assigns a value to a variable.	Syntax:
		variable_name = value
		Example:
		name="John" $\#$ assigning John to variable name $x$ = 5 $\#$ assigning 5 to variable $x$



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