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## **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<./td>	<ol> <li>1. 1</li> <li>1. # This is a comment</li> </ol>
Concatenation	Combines (concatenates) strings.	<pre>Copied! Syntax:     1. 1     1. concatenated_string = string1 + string2 Copied! Example:     1. 1     1. result = "Hello" + " John" Copied! Example:</pre>
Data Types	- Integer - Float - Boolean - String	1. 1 2. 2 3. 3 4. 4 5. 5 6. 6 7. 7 8. 8 9. 9 10. 10  1. x=7 2. # Integer Value 3. y=12.4 4. # Float Value 5. is_valid = True 6. # Boolean Value 7. is_valid = False 8. # Boolean Value 9. F_Name = "John" 10. # String Value
Indexing	Accesses character at a specific index.	Copied!  Example:  1. 1 2. 2  1. my_string="Hello" 2. char = my_string[0]  Copied!  Syntax:
len()	Returns the length of a string.	<pre>1. 1 1. len(string_name)  Copied!  Example:  1. 1 2. 2 1. my_string="Hello" 2. length = len(my_string)  Copied!</pre>
lower() print()	Converts string to lowercase.  Prints the message or variable inside `()`.	Example:  1. 1 2. 2 1. my_string="Hello" 2. uppercase_text = my_string.lower()  Copied!  Example:  1. 1 2. 2
		<ol> <li>print("Hello, world")</li> <li>print(a+b)</li> </ol>

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                                                                                                                      Example:
                                                                                                                         2. 2
3. 3
                                                                                                                         4. 4
                      - Addition (+): Adds two values together.
                                                                                                                         5.5
                      - Subtraction (-): Subtracts one value from another.
                       - Multiplication (*): Multiplies two values.
Python Operators
                      - Division (/): Divides one value by another, returns a float.
                                                                                                                         1. x = 9 y = 4
                      - Floor Division (//): Divides one value by another, returns the quotient as an integer.
                                                                                                                         2. result_add= x + y # Addition
                                                                                                                         3. result_sub= x - y # Subtraction
4. result_mul= x * y # Multiplication
5. result_div= x / y # Division
6. result_fdiv= x // y # Floor Division
                      - Modulo (%): Returns the remainder after division.
                                                                                                                         7. result_mod= x % y # Modulo
                                                                                                                      Copied!
                                                                                                                      Example:
                                                                                                                         1. 1
replace()
                       Replaces substrings.
                                                                                                                         1. my_string="Hello"
                                                                                                                         2. new_text = my_string.replace("Hello", "Hi")
                                                                                                                      Copied!
                                                                                                                      Syntax:
                                                                                                                         1. 1
                                                                                                                         1. substring = string_name[start:end]
                                                                                                                      Copied!
Slicing
                       Extracts a portion of the string.
                                                                                                                      Example:
                                                                                                                         1. 1
                                                                                                                         1. my_string="Hello" substring = my_string[0:5]
                                                                                                                      Copied!
                                                                                                                      Example:
                                                                                                                         1. 1
2. 2
split()
                       Splits string into a list based on a delimiter.
                                                                                                                         1. my_string="Hello"
2. split_text = my_string.split(",")
                                                                                                                      Copied!
                                                                                                                      Example:
                                                                                                                         1. 1
strip()
                       Removes leading/trailing whitespace.
                                                                                                                         1. my_string="Hello"
2. trimmed = my_string.strip()
                                                                                                                      Copied!
                                                                                                                      Example:
upper()
                       Converts string to uppercase.

    my_string="Hello"

                                                                                                                         2. uppercase_text = my_string.upper()
                                                                                                                      Copied!
                                                                                                                      Syntax:

    variable_name = value

                                                                                                                      Copied!
Variable
                      Assigns a value to a variable.
                                                                                                                      Example:
Assignment
                                                                                                                         1. 1
                                                                                                                         2. 2
                                                                                                                         1. name="John" # assigning John to variable name 2. x = 5 # assigning 5 to variable x
                                                                                                                       Copied!
```

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