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>	```1 # This is a comment```

Concatenation	Combines (concatenates) strings.	**Syntax:**
		```1 concatenated_string = string1 + string2```
		
		Example:
		```1 result = "Hello" + " John"</td>```

Data Types	- Integer - Float - Boolean - String	**Example:**
		```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.	**Example:**
		```1 my_string="Hello"```
		```2 char = my_string[0]```

len()	Returns the length of a string.	**Syntax:**
		```1 len(string_name)```
		
		Example:
		```1 my_string="Hello"```
		```2 length = len(my_string)```

lower()	Converts string to lowercase.	**Example:**
		```1 my_string="Hello"```
		```2 uppercase_text = my_string.lower()```

print()	Prints the message or variable inside `()`.	**Example:**
		```1 print("Hello, world")```
		```2 print(a+b)```

Python Operators	- Addition (+): Adds two values together.
	- Subtraction (-): Subtracts one value from another.
	- Multiplication (*): Multiplies two values.
	- Division (/): Divides one value by another, returns a float.
	- Floor Division (//): Divides one value by another, returns the quotient as an integer.
	- Modulo (%): Returns the remainder after division.
		Example:
		```1 x = 9 y = 4```
		```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```
		```7 result_mod= x % y # Modulo</td>```

replace()	Replaces substrings.	**Example:**
		```1 my_string="Hello"```
		```2 new_text = my_string.replace("Hello", "Hi")```

Slicing	Extracts a portion of the string.	**Syntax:**
		```1 substring = string_name[start:end]```
		
		Example:
		```1 my_string="Hello" substring = my_string[0:5]```

split()	Splits string into a list based on a delimiter.	**Example:**
		```1 my_string="Hello"```
		```2 split_text = my_string.split(",")```

strip()	Removes leading/trailing whitespace.	**Example:**
		```1 my_string="Hello"```
		```2 trimmed = my_string.strip()```

upper()	Converts string to uppercase.	**Example:**
		```1 my_string="Hello"```
		```2 uppercase_text = my_string.upper()```

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

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