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

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

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:
| | | ```python
my_string="Hello"
length = len(my_string)
``` |
| lower() | Converts string to lowercase. | Example:<br><br>```python
my_string="Hello"
uppercase_text = my_string.lower()
``` |
| print() | Prints the message or variable inside `()`. | Example:<br><br>```python
print("Hello, world")
print(a+b)
``` |
| Python Operators | - Addition (+): Adds two values together.<br>- Subtraction (-): Subtracts one value from another.<br>- Multiplication (*): Multiplies two values.<br>- Division (/): Divides one value by another, returns a float.<br>- Floor Division (//): Divides one value by another, returns the quotient as an integer.<br>- Modulo (%): Returns the remainder after division. | Example:<br><br>```python
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</td>
``` |
| replace() | Replaces substrings. | Example:<br><br>```python
my_string="Hello"
new_text = my_string.replace("Hello", "Hi")
``` |
| Slicing | Extracts a portion of the string. | Syntax:<br><br>```python
substring = string_name[start:end]
``` |

		Example: ``` my_string="Hello" substring = my_string[0:5] ```
split()	Splits string into a list based on a delimiter.	Example: ``` my_string="Hello" split_text = my_string.split(",") ```
strip()	Removes leading/trailing whitespace.	Example: ``` my_string="Hello" trimmed = my_string.strip() ```
upper()	Converts string to uppercase.	Example: ``` my_string="Hello" uppercase_text = my_string.upper() ```

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
		``