

## 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:<br><br>concatenated_string = string1 + string2<br><br>Example:<br><br>result = "Hello" + " John"</td>   |
| Data Types       | - Integer - Float - Boolean - String   | Example:<br><br>x=7<br># Integer Value<br>y=12.4<br># Float Value<br>is_valid = True<br># Boolean Value<br>is_valid = False<br># Boolean Value<br>F_Name = "John"<br># String Value   |
| Indexing         | Accesses character at a specific index.  | Example:<br><br>my_string="Hello"<br>char = my_string[0]  |
| len()            | Returns the length of a string.  | Syntax:<br><br>len(string_name)<br><br>Example:<br><br>my_string="Hello"<br>length = len(my_string)   |
| lower()          | Converts string to lowercase.  | Example:<br><br>my_string="Hello"<br>uppercase_text = my_string.lower()   |
| print()          | Prints the message or variable inside `()`.  | Example:<br><br>print("Hello, world")<br>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>x = 9 y = 4<br>result_add= x + y # Addition<br>result_sub= x - y # Subtraction<br>result_mul= x * y # Multiplication<br>result_div= x / y # Division<br>result_fdiv= x // y # Floor Division<br>result_mod= x % y # Modulo</td> |
| replace()        | Replaces substrings.   | Example:<br><br>my_string="Hello"<br>new_text = my_string.replace("Hello", "Hi")  |
| Slicing          | Extracts a portion of the string.  | Syntax:<br><br>substring = string_name[start:end]<br><br>Example:<br><br>my_string="Hello" substring = my_string[0:5]   |
| split()          | Splits string into a list based on a delimiter.  | Example:<br><br>my_string="Hello"<br>split_text = my_string.split(",")  |
| strip()          | Removes leading/trailing whitespace.   | Example:<br><br>my_string="Hello"   |

|                        |                                |   |
|------------------------|--------------------------------|---|
|                        |                                | <code>trimmed = my_string.strip()</code>  |
| <code>upper()</code>   | Converts string to uppercase.  | Example:<br><code>my_string="Hello"</code><br><code>uppercase_text = my_string.upper()</code>   |
| Variable<br>Assignment | Assigns a value to a variable. | Syntax:<br><code>variable_name = value</code><br>Example:<br><code>name="John" # assigning John to variable name</code><br><code>x = 5 # assigning 5 to variable x</code> |



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