# 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>```concatenated_string = string1 + string2```<br><br>Example:<br>```result = "Hello" + " John"</td>``` |
| Data Types | - Integer - Float - Boolean - String | Example:<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>```my_string="Hello"```<br>```char = my_string[0]``` |
| len() | Returns the length of a string. | Syntax:<br>```len(string_name)``` |

| | | Example: |
|---|---|---|
| | | ```
my_string="Hello"
length = len(my_string)
``` |
| lower() | Converts string to lowercase. | Example:<br><br>```
my_string="Hello"
uppercase_text = my_string.lower()
``` |
| print() | Prints the message or variable inside `()`. | Example:<br><br>```
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>```
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>```
my_string="Hello"
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"`<br>`trimmed = my_string.strip()` |
| upper() | Converts string to uppercase. | Example:<br><br>`my_string="Hello"`<br>`uppercase_text = my_string.upper()` |
| Variable Assignment | Assigns a value to a variable. | Syntax:<br><br>`variable_name = value` |

Example:

```
name="John" # assigning John to variable name
x = 5 # assigning 5 to variable x
```

**Skills** Network