

Python Cheat Sheet

OUTPUT

```
# This is a comment
```

```
print ("Hello World")
```

Displays: "Hello World"

```
print ("Hello " + "World")
```

Concatenates the string.

Displays: "Hello World"

```
str()
```

Converts another data type into a string.

Example: `str(3)` returns "3"

```
print ("There are " + str(3) + " apples")
```

Displays: "There are 3 apples"

VARIABLES

```
# Initialize Variables  
i = 0  
name = ""  
workshop = "Introduction to CS"
```

ARITHMETIC OPERATORS

+	Add	-	Subtract	*	Multiply
/	Divide	//	Integer division (drops decimal)		
**	Exponent				

```
int()
```

Converts another data type into an integer

Example: `int(2)` returns 2

```
float()
```

Converts another data type into a decimal number

Example: `float(2)` returns 2.0

```
round()
```

Rounds a real number to the nearest integer

Example: `round(2.8)` returns 3

KEYBOARD INPUT

```
number = input("Enter a number:")
```

STRINGS

```
string = "Python"  
len()
```

Determines the number of characters in the string

Example: `len(string)` returns 6

```
string[i]
```

Gets the character in the string at index *i*

Example: `string[0]` Returns "P", the first character. `string[-1]` Returns "n", the last character.

```
string[x:y]
```

Gets the substring from index *x* to index *y*

Example: `string[1:4]` returns "yth"

```
string.upper()
```

Converts the string to all uppercase letters

Returns "PYTHON"

```
string.lower()
```

Converts the string to all lowercase letters

Returns "python"

LISTS

```
# Initialize a list; Lists can have  
multiple data types  
L = []  
L = ["a", 12, "abc"]
```

```
L[i]
```

Gets the character in the string at index i

Example: L[0] returns "a", the first element

```
len(L)
```

Determines the length of the list.

Returns 3

```
L.append(4)
```

Adds an element to the end of the list

L is now: ["a", 12, "abc", 4]

```
L.remove("abc")
```

Removes the value from the list.

L is now: ["a", 12, 4]

```
L.pop(0)
```

Removes the value at index 0

L is now: [12, 4]

CONDITIONAL STATEMENTS

Relational Operators

== Equal to != Not equal to

> Greater than < Less than

>= Greater than or equal to

<= Less than or equal to

Boolean Operators - evaluate to True or False

and Example evaluating to True:

```
(1 > 0) and (4 > 0)
```

or Example evaluating to True:

```
(1 > 3) or (4 > 3)
```

not Example evaluating to True:

```
not (1 == 2)
```

One Way Selection

```
if name == "Sudo":  
    print ("Hello Sudo")
```

Two Way Selection

```
if mark >= 50:  
    print ("Pass")  
else:  
    print ("Fail")
```

Multiple Selection

```
if number > 0:  
    print ("Positive")  
elif number < 0:  
    print ("Negative")  
else:  
    print ("Zero")
```

LOOPS

Counted Loops

```
for i in range (1, 10):  
    print (i)
```

This prints the values 1-9.

```
L = [1, 2, 3]  
for element in L:  
    print (element)
```

This prints all elements in the list L

Conditional Loops

```
i = 1  
while (i <= 10):  
    print (i)  
    i = i + 1
```

This also prints the values 1-9.

FUNCTIONS

```
# Sample function that adds two  
numbers  
def addNumbers (number1, number2):  
    sum = number1 + number2  
    return sum  
  
print (addNumbers(3, 4 ))
```

Displays: 7