Cheatography

Python for Spike users Cheat Sheet

by seamus2389 via cheatography.com/43619/cs/13000/

Data Types

String	'Hello', "2345", 'This is a string'
Integer (Int)	2, 5, -7
Double (float)	2.1, 5.0, -7.778
Boolean	True, False

Assignment operator

x = y	The value of y is assigned to the variable x

Comparsion operator

x == y	x is equal to y
x != y	x is not equal to y
x < y	x is less than y
x > y	x is greater than y
x <= y	x is less than or equal
x >= y	x is greater than or equal

Identity operators

x is y	x references the same data as y
x is not y	x does not reference the same data as y

Logical operators

x == y And x > 0	If both the expressions are True then the ‘and’ operator returns True
x== y Or x > 0	If either of the expressions are True then the ‘or’ operator returns True

See lesson 5 of Basics of Python for Spike users in the helpfiles

Variable Scope/allowable context

command	global interpreter	(work)unit cfb/em(eu) command	procedural step/transition
unit	NO	YES	YES - S88
em	NO	YES	NO
workUnit	NO	YES	YES - S95
EU	NO	YES	NO

See the 'Variable Scope' section of the help files.

Arithmetic Operators

x + y	add
x - y	subtract
x * y	multiply
x / y	divide
x ** y	x ^ y
x % y	modulus
abs(x)	absolute

Potential pitfalls

object comparsion*

while*

> The while loop statement repeatedly executes a target statement as long as a given condition is true. However if while loops are used inappropriately they will trash CPU performance. In most cases the 'if' statement, waitFor function and timers would be more appriopate.

rounding errors*

> Double values can only be appropriate

'True' v 'true'

> In Spike, 'True' refers to a boolean value while 'true' is the name of an object

*See the potential programming pitfalls section of the help files for more detail

Useful Spike functions

opc('NameOf Object')	Access an object in the opc model
opc('NameOf Object').	The **'.'** operator provides access to all commands and properties of the object
unit.	Provides access to the commands and properties of the current unit
unit.**Support Module**	Provides access to unit parameters, timer and counters
unit.**Message Module**	Provides access to create messages, prompts and call work instructions
em.	Provides access to the commands and properties of the current equipment module

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Useful Spike functions (cont)

info()	Prints a string variable to the console tab
str()	Converts an object into a string
waitFor(condition met)	Wait for the value of given property on given module to equal given condition
sleep(duration)	Put current script to sleep for duration seconds
resetModules()	Reset parent associated modules
firstScan	do something when running a script the first time

Useful code snippets

$createtimer	Recommended method of creating a timer
$createcounter	Recommended method of creating a counter

$ calls various pre-created code snippets which can be viewed in the snippets folder of the Type Explorer

Statements

If Statement

if *condition met*:

do Something

elif *other condition met*:

do Something Else

else:

do Something Else

While Loop

while *condition is met*:

do Something

For Loop

For *variable* in *collection*:

do Something with variable