Blockly-Python Equivalents
For Modern Robotics' Fusion Robot

We spoke to potential users. One of their first requests was for a "quick reference" list of Fusion Python equivalents to the Fusion Blockly commands, to assist them during the transition phase of their language conversion. This is our attempt to meet their request.

This list of equivalents applies to standard build of the Fusion Robot Base Kit, using Fusion's Blockly View/Mode/Basic Menu option. The "Needed Previously Once" column lists commands that must be occur before the code in the right column is used. As an example, "import time" & "speed = 60" must occur once before the "Move" commands, but one occurrence is sufficient and there can be multiple "Move" commands after "import time" & "speed = 60" statements.

Blockly	Fusion Action	Needed Previously Once	Equivalent Python Code
	Make Python available	This is needed before ALL Python commands	```import Fusion``` ```f = Fusion.driver()```

	Move forward one unit	import time
		speed = 60
			```f.motorSpeed(f.M0+f.M1, speed)```
			```time.sleep(1)```
			```f.motorSpeed(f.M0+f.M1, 0)```

	Move backward one unit	import time
		speed = 60
			```f.motorSpeed(f.M0+f.M1, -speed)```
			```time.sleep(1)```
			```f.motorSpeed(f.M0+f.M1, 0)```

	Set speed to "Rabbit" (fast)		```speed = 80```
	Set speed to "Turtle" (medium speed))		```speed = 60```
	Set speed to "Snail" (slow)		```speed = 20```
	Wait approximately 1 second.	import time	```time.sleep(1)```

	Half turn right (45 degrees clockwise)	import time	`f.motorSpeed(f.M0, -60)`
			`f.motorSpeed(f.M1, 60)`
			`time.sleep(0.42)`
			`f.motorSpeed(f.M0+f.M1, 0)`

	Turn right (90 degrees clockwise)	import time	`f.motorSpeed(f.M0, -60)`
			`f.motorSpeed(f.M1, 60)`
			`time.sleep(0.82)`
			`f.motorSpeed(f.M0+f.M1, 0)`

	Turn right backwards (180 degrees clockwise)	import time	`f.motorSpeed(f.M0, -60)`
			`f.motorSpeed(f.M1, 60)`
			`time.sleep(1.7)`
			`f.motorSpeed(f.M0+f.M1, 0)`

	Half turn left (45 degrees anti-clockwise)	import time	`f.motorSpeed(f.M0, 60)`
			`f.motorSpeed(f.M1, -60)`
			`time.sleep(0.42)`
			`f.motorSpeed(f.M0+f.M1, 0)`

	Turn left (90 degrees anti-clockwise)	import time	`f.motorSpeed(f.M0, 60)`
			`f.motorSpeed(f.M1, -60)`
			`time.sleep(0.82)`
			`f.motorSpeed(f.M0+f.M1, 0)`

	Turn left backwards (180 degrees anti-clockwise)	import time	`f.motorSpeed(f.M0, 60)`
			`f.motorSpeed(f.M1, -60)`
			`time.sleep(1.7)`
			`f.motorSpeed(f.M0+f.M1, 0)`

	Turn blue LED light on.		`f.setLED(f.YELLOW, 0)` `f.setLED(f.BLUE, 1)`
	Turn yellow LED light on.		`f.setLED(f.YELLOW, 1)` `f.setLED(f.BLUE, 0)`
	Turn purple LED light on.		`f.setLED(f.YELLOW, 1)` `f.setLED(f.BLUE, 1)`
	Turn LED light off.		`f.setLED(f.YELLOW, 0)` `f.setLED(f.BLUE, 0)`