GoGo Extension for NetLogo

Command Reference

I - Setup Commands

gogo-open	Sets and initializes the GoGo on a particular serial port.
Example	`gogo-open "COM1"` will use COM1 to communicate with the GoGo board.
ping	Checks the status of GoGo board. This is mostly used to make sure the board is connected to the correct serial port.
Example	`show ping` will return "true" if the board is working correctly.

II - Sensor Commands

sensor 1 sensor 2 sensor 3 sensor 4 sensor 5 sensor 6 sensor 7 sensor 8	Read the sensor value. Value ranges between 0-1023. • **1023** is returned when there is no sensor attached to the port (highest resistance), or when the sensor is an "open" state. • **0** is returned when the sensor is short circuited (no resistance).

Example	`show sensor 1`
	
	will show the value of sensor 1
	
	`foreach [ 1 2 3 4 5 6 7 8 ]`
	`  [show (word "Sensor " ? " = " sensor ?)]`
	
	will show the value of all sensors in the Command Center
	
	`if sensor 1 < 500 [ ask turtles [ fd 10 ]]`
	
	will move all turtles 10 steps if sensor 1's value is less than 500.

III - Output (motor) Commands

talk-to-motors [motor-list]	This command will set the corresponding output ports at the active. They will be the ones affected by the **action commands** below. You can "talk" to one or multiple ports at the same time. Output ports are typically connected to motors, but you could also use bulbs, LEDs and relays. motor-list consists of a list of port names from "a" to "d"

Example	`talk-to-motors ["a" "b" "c"]`
	
	will set ports **a**, **b**, and **c** as active.
	
	`talk-to-motors ["a"]`
	
	will set only port a as the active ports.

motor-on	Turns on the power of the active port(s).
motor-off	Turns off the power of the active port(s).

Example	`to test-gogo`
	`  talk-to-motors ["a"]`
	`  ifelse (sensor 1 < 1023)`
	`  [motor-on]`
	`  [motor-off]`
	`end`
	
	If you run this procedure from a button with "forever" activated, **output port a** will be turned on when only when **sensor 1** is less than 1023.

motor-coast	Turns off the power of the active ports. When attached to motors, no breaking is applied. Therefore, the motor will gradually slow down before stopping completely. This will have the same effect as **motor-off** on most output devices other than motors.

Example	`talk-to-motors ["a"]`
	`motor-on`
	`wait 1`
	`motor-coast`
	
	will turn on **port a** for 1 second, and then stop the motor gradually.

motor-thisway motor-thatway	When used with motors, these two commands control the direction in which the motor turns. **Thisway** and **Thatway** could mean clockwise or counter-clockwise depending on how the motors are plugged into the port (inverting the polarity of the connectors inverts the direction of the motors).

motor-reverse	Reverses the direction of the motors.

Example	`talk-to-motors ["a" "b" "c" "d"]`
	`motor-on`
	`wait 1`
	`motor-reverse`
	`wait 1`
	`motor-off`
	
	This will activate all motor ports, turn them on, wait 1 second, reverse the direction, wait another second, and then turn all of them off.

set-motor-power power	Sets the power level of the active ports. Power ranges from 0 to 7. The default power level is 7 (full power).

Example	`talk-to-motors ["a" "b" "c" "d"]`
	`set-motor-power 4`
	
	will lower the power of all output ports by half of the full power.