

ROBOTC Natural Language - VEX PIC Quick Reference:

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| <p>Set Servo Set a servo to a desired position. <i>Default servo and position: port6, 0.</i></p> | <pre>setServo();</pre> | <pre>setServo(port7, 95);</pre> |
| <p>Start Motor Set a specific motor to a speed. <i>Default motor and speed: port6, 95.</i></p> | <pre>startMotor(); wait(); stopMotor();</pre> | <pre>startMotor(port8, -32); wait(0.5); stopMotor(port8);</pre> |
| <p>Stop Motor Stop a specific motor. <i>Default motor: port6.</i></p> | <pre>startMotor(); wait(); stopMotor();</pre> | <pre>startMotor(port8, -32); wait(0.5); stopMotor(port8);</pre> |
| <p>Wait Wait an amount of time measured in seconds. Only use whole numbers on the VEX PIC. <i>Default time: 1.</i></p> | <pre>startMotor(); wait(); stopMotor();</pre> | <pre>startMotor(port8, 63); wait(2.7); stopMotor(port8);</pre> |
| <p>Wait in Milliseconds Wait an amount of time measured in milliseconds. <i>Default time: 1000.</i></p> | <pre>startMotor(); waitInMilliseconds(); stopMotor();</pre> | <pre>startMotor(port8, 63); waitInMilliseconds(2700); stopMotor(port8);</pre> |
| <p>Until Touch The robot waits for the Touch Sensor to be pressed. <i>Default sensor port: NONE.</i></p> | <pre>startMotor(); untilTouch(in10); stopMotor();</pre> | <pre>startMotor(port8, 63); untilTouch(in10); stopMotor(port8);</pre> |
| <p>Until Release The robot waits for the Touch Sensor to be released. <i>Default sensor port: NONE.</i></p> | <pre>startMotor(); untilRelease(in10); stopMotor();</pre> | <pre>startMotor(port8, 63); untilRelease(in10); stopMotor(port8);</pre> |
| <p>Until Bump The robot waits for the Touch Sensor to be pressed in and then released out. <i>Default sensor port: NONE.</i></p> | <pre>startMotor(); untilBump(in10); stopMotor();</pre> | <pre>startMotor(port8, 63); untilBump(in10); stopMotor(port8);</pre> |
| <p>Until Button Press The robot waits for a button on the VEX LCD to be pressed. <i>Default button: centerBtnVEX.</i></p> | <pre>startMotor(); untilButtonPress(); stopMotor();</pre> | <pre>startMotor(port8, 63); untilButtonPress(rightBtnVEX); stopMotor(port8);</pre> |
| <p>Until Sonar - Less Than The robot waits for the Sonar Sensor to read a value in cm less than the threshold. <i>Default threshold and sensor port: NONE.</i></p> | <pre>startMotor(); untilSonarLessThan(45, in2); stopMotor();</pre> | <pre>startMotor(port8, 63); untilSonarLessThan(45, in2); stopMotor(port8);</pre> |
| <p>Until Sonar - Greater Than The robot waits for the Sonar Sensor to read a value in cm greater than the threshold. <i>Default threshold and sensor port: NONE.</i></p> | <pre>startMotor(); untilSonarGreaterThan(45, in2); stopMotor();</pre> | <pre>startMotor(port8, 63); untilSonarGreaterThan(45, in2); stopMotor(port8);</pre> |

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| <p>Until Potentiometer - Greater Than The robot waits for the Potentiometer Sensor to read a value greater than a set position. <i>Default threshold and sensor port: NONE.</i></p> | <pre>startMotor(); untilPotentiometerGreaterThan(900, in4); stopMotor();</pre> | <pre>startMotor(port8, 63); untilSonarGreaterThan(900, in4); stopMotor(port8);</pre> |
| <p>Until Potentiometer - Less Than The robot waits for the Potentiometer Sensor to read a value less than a set position. <i>Default threshold and sensor port: NONE.</i></p> | <pre>startMotor(); untilPotentiometerLessThan(500, in4); stopMotor();</pre> | <pre>startMotor(port8, 63); untilSonarLessThan(40, in4); stopMotor(port8);</pre> |
| <p>Until Dark The robot waits for the Light Sensor to read a value less than the threshold. <i>Default threshold and sensor port: NONE.</i></p> | <pre>startMotor(); untilDark(400, in4); stopMotor();</pre> | <pre>startMotor(port8, 63); untilDark(400, in4); stopMotor(port8);</pre> |
| <p>Until Light The robot waits for the Light Sensor to read a value greater than the threshold. <i>Default threshold and sensor port: NONE.</i></p> | <pre>startMotor(); untilLight(400 in4); stopMotor();</pre> | <pre>startMotor(port8, 63); untilLight(400, in4); stopMotor(port8);</pre> |
| <p>Until Rotations The robot waits for an encoder to reach a specified whole number of rotations. <i>Default rotations, encoder: NONE</i></p> | <pre>startMotor(); untilRotations(2, in3); stopMotor();</pre> | <pre>startMotor(port8, 63); untilRotations(2, in3); stopMotor(port8);</pre> |
| <p>Until Encoder Counts The robot waits for an encoder to reach a specified number of encoder counts. <i>Default counts, encoder: NONE.</i></p> | <pre>startMotor(); untilEncoderCounts(990, in3); stopMotor();</pre> | <pre>startMotor(port8, 63); untilEncoderCounts(990, in3); stopMotor(port8);</pre> |
| <p>LED ON Turn an LED in a specified digital port ON. <i>Default sensor port: in12.</i></p> | <pre>turnLEDOn(); wait(); turnLEDOff();</pre> | <pre>turnLEDOn(dgt17); wait(0.5); turnLEDOff(dgt17);</pre> |
| <p>LED OFF Turn an LED in a specified digital port OFF. <i>Default sensor port: in12.</i></p> | <pre>turnLEDOn(); wait(); turnLEDOff();</pre> | <pre>turnLEDOn(dgt17); wait(0.5); turnLEDOff(dgt17);</pre> |
| <p>Flashlight ON Turn a VEX Flashlight in a specified motor port ON at a specified brightness. <i>Default motor port and brightness: port4, 63.</i></p> | <pre>turnFlashlightOn(); wait(); turnFlashlightOff();</pre> | <pre>turnFlashlightOn(port10, 127); wait(0.5); turnFlashlightOff(port10);</pre> |
| <p>Flashlight OFF Turn a VEX Flashlight in a specified motor port OFF. <i>Default motor port: port4.</i></p> | <pre>turnFlashlightOn(); wait(); turnFlashlightOff();</pre> | <pre>turnFlashlightOn(port10, 127); wait(0.5); turnFlashlightOff(port10);</pre> |
| <p>Robot Type Choose which robot you are using (Recbot or Swervebot). <i>Default bot: none.</i></p> | <pre>robotType();</pre> | <pre>robotType(squarebot);</pre> |

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| Forward The robot drives straight forward. <i>Default speed: 95.</i> | <pre>forward(); wait(); stop();</pre> | <pre>forward(63); wait(2.0); stop();</pre> |
| Backward The robot drives straight backward. <i>Default speed: -95.</i> | <pre>backward(); wait(); stop();</pre> | <pre>backward(63); wait(2.0); stop();</pre> |
| Point Turn The robot makes a sharp turn in place. <i>Default direction and speed: right, 95.</i> | <pre>pointTurn(); wait(); stop();</pre> | <pre>pointTurn(left, 63); wait(0.4); stop();</pre> |
| Swing Turn The robot makes a wide turn, activating only one drive motor. <i>Default direction and speed: right, 95.</i> | <pre>swingTurn(); wait(); stop();</pre> | <pre>swingTurn(left, 63); wait(0.75); stop();</pre> |
| Stop The robot halts both driving motors, coming to a stop. | <pre>forward(); wait(); stop();</pre> | <pre>forward(63); wait(2.0); stop();</pre> |
| Move Straight - for Time The robot will use encoders to maintain a straight path for a specified time in seconds. <i>Default rotations, rightEncoder, leftEncoder: 5, in2, in3 + interrupts.</i> | <pre>moveStraightForTime(7, in5, in3); stop();</pre> | <pre>moveStraightForTime(7, in5, in3); stop();</pre> |
| Move Straight - for Rotations The robot will use encoders to maintain a straight path for a specified distance in encoder rotations. <i>Default rotations, rightEncoder, leftEncoder: 1, in2, in3 + interrupts.</i> | <pre>moveStraightForRotations(4, in5, in3); stop();</pre> | <pre>moveStraightForRotations(4, in5, in3); stop();</pre> |
| Tank Control The robot is remote controlled with the right motor mapped to the right joystick and the left motor mapped to the left joystick. <i>Default right and left joystick: Ch2, Ch3.</i> | <pre>while(true) { tankControl(); }</pre> | <pre>while(true) { tankControl(Ch1, Ch4); }</pre> |
| Arcade Control The robot is remote controlled with both motors mapped to a single joystick. <i>Default vertical and horizontal joysticks: Ch2, Ch1.</i> | <pre>while(true) { arcadeControl(); }</pre> | <pre>while(true) { arcadeControl(Ch1, Ch4); }</pre> |