Programming Challenge

Seeing the Difference

Challenge Description

Write programs to make your robot move forward at ¼, ½, ¾, and full power levels for 5 seconds. Prop the robot up so that it's wheels spin freely. Run each program with the robot tethered to the programming cable and the "Robot > Debug Windows > Sensors" window open. (See page 2 for details on using the "Sensors" window.) Fill in the chart below using the recorded values.

Materials Needed

• Pencil
• Object for propping up robot

Chart

Power Level	Right Encoder (counts)	Left Encoder (counts)	% Difference
31			
63			
96			
127			

Were the Percentages of Difference consistent throughout the trials?

If not, was there a relationship between them?

If so what was it? If not, speculate as to why.

Was one of the motors always turning faster than the other? If so, which one?

Seeing the Difference

Debugger Window: Sensors

The Sensors window is a powerful part of the ROBOTC debugger. When shown, it displays the current status of all sensors configured on your robot. Use the following steps to open the Sensors window and view the information it provides.
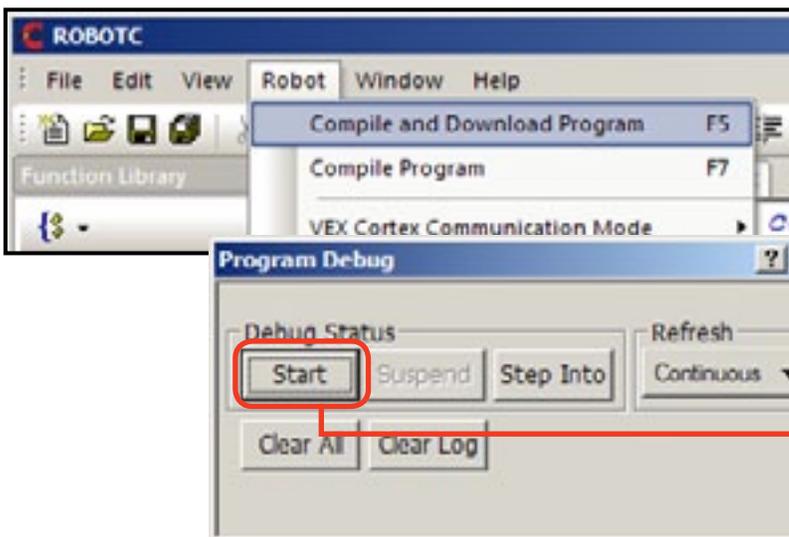
Robot > Compile and Download Program
Compile and Download your program to the robot.

Program Debug
The Program Debug window will open once the download is complete.

Start Button
Press the "Start" button to initialize the program.
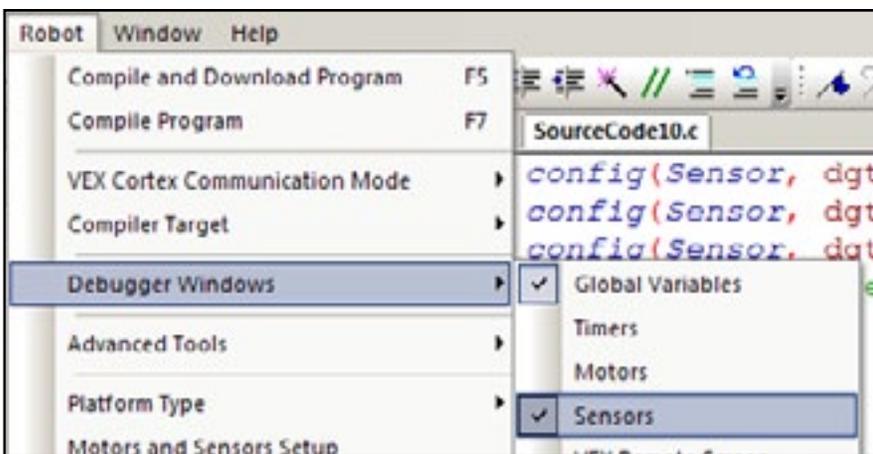
Robot > Debugger Windows > Sensors
Open up the Sensors window.

Observe Values
The current value of any sensors configured using the "Motors and Sensors Setup" window are viewable under the Sensors section.

For example, touch sensors will display a 1 (pressed) or a 0 (not pressed), and encoders will show their current count.

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