ADVANCED EV3 PROGRAMMING LESSON

Proportional Control with the Sound Sensor

By Sanjay and Arvind Seshan

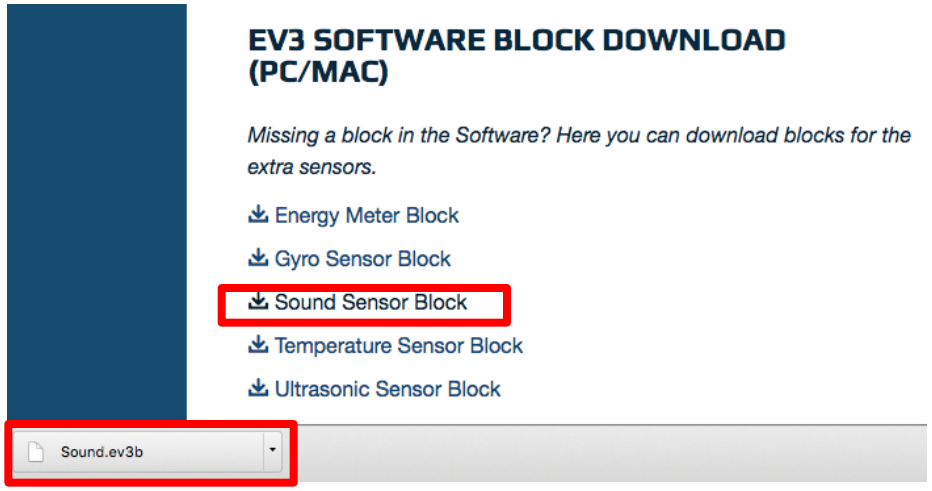
Lesson Objectives

1. Learn to use the Sound Sensor with proportional control

Pre-requisites: Proportional Control, Sound Sensor, Data wires, Loops

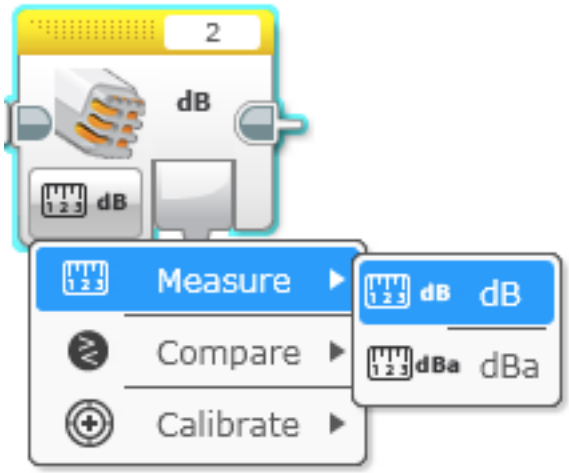
Downloading the Sound Block

- The Sound Block is available for download on the LEGO.com site:
  - http://www.lego.com/en-us/mindstorms/downloads
- Download the block using the Importing Additional Blocks Lesson in Beginner



Sound Sensor: Measure Mode

- Measure Mode
  - dB
    - Sound level, scaled to a percentage
  - dBa
    - Sound level, adjusted to approximate human ear sensitivity, and then scaled to a percentage



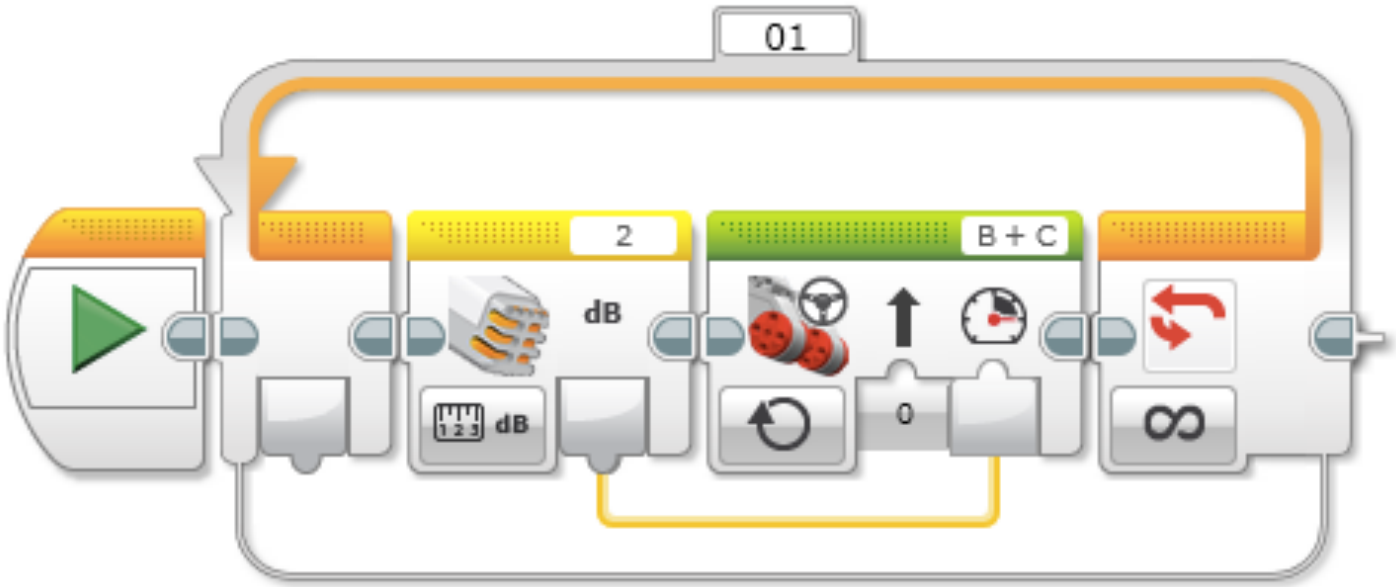
- Source: EV3 Help Menu

Sound Sensor Challenge

- In the Sound Sensor lesson in Beginner, the challenge was to write a “Celebration” program where the robot moves faster or slower depending on how loud the sound is
- For this challenge, we will improve this code by using proportional control

- Hint
  - The Sound Sensor Block in Measure Mode will be used
  - You can use dB or dBa for this challenge

Challenge Solution



Credits

- This tutorial was created by Sanjay Seshan and Arvind
- More lessons are available at www.ev3lessons.com