Command by Sound Programming Solution

SOLUTION: Sound Sensor Activity
– Go straight and turn right on first clap and turn left on second clap.

Description:

   This program is for an NXT robot with an attached sound sensor. The program will cause the robot to move forwards until the sound of clap is detected by the NXT sound sensor. Once this occurs, the robot will turn right, and then continue on its way until it hears a second clap which will make it turn left and then STOP.
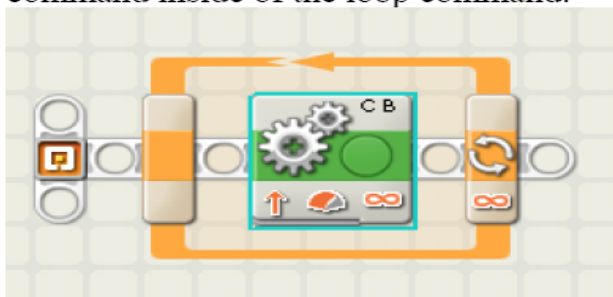
Programming:

1) Click the "Loop" icon [second icon from the bottom] and drag and drop the loop command onto the sequence beam.
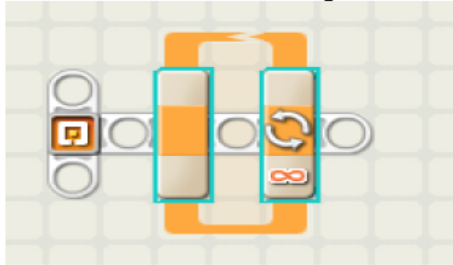
   With the loop command highlighted, verify the loop control is set to forever in the control panel.

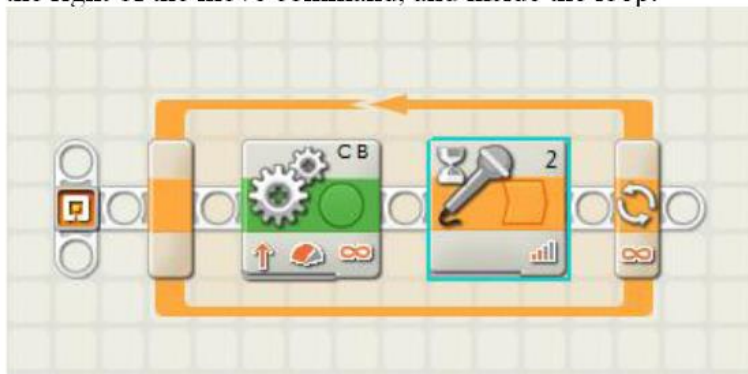2) Click the "move" icon [first icon from the top] and drag and drop the move command inside of the loop command.

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With the move command highlighted, verify the following settings in the control panel.

    a. Port: B and C selected
    b. Direction set to forward
    c. Steering slider set to forwards [in the middle]
    d. Power set to 75
    e. Duration drop down menu set to "Unlimited"

3) Mouse over the "wait for" icon [third from the bottom] and click on the touch icon [second in the pop-up list] then drag and drop the touch wait for command to the right of the move command, and inside the loop.

With the touch wait for command highlighted, verify the following settings in the control panel.

    a. Control: Sensor
    b. Sensor: Sound Sensor
    c. Port: 2 (or whatever port the touch sensor is connected to)
    d. Until: >60dB (Note: Clap sound has a dB greater than 60)

4) Click the "move" icon [first icon from the top] and drag and drop the move command to the right of the sound wait for command, and inside of the loop command.
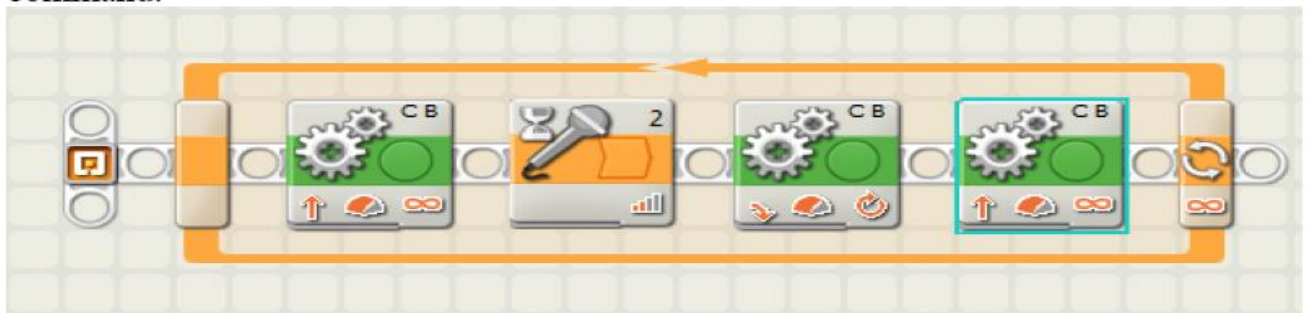

With the move command highlighted, verify the following settings in the control panel.
  a. Port: B and C selected
  b. Direction set to forward
  c. Steering slider to the right
  d. Power set to 75
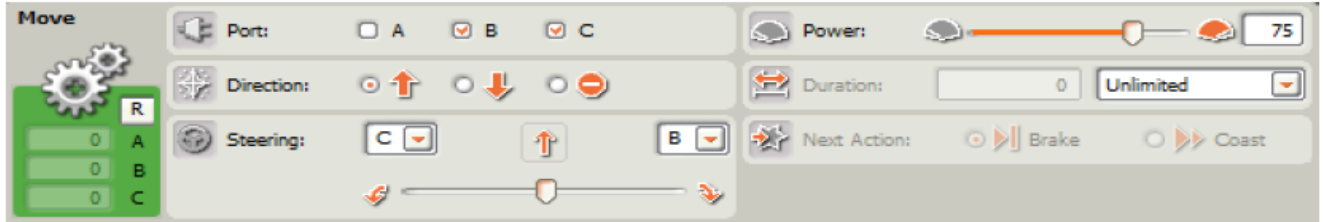 e. Duration set to 0.5 "Rotations"
  f. Next action set to brake

5) Click the "move" icon [first icon from the top] and drag and drop the move command to the right of the last move command, and inside of the loop command.
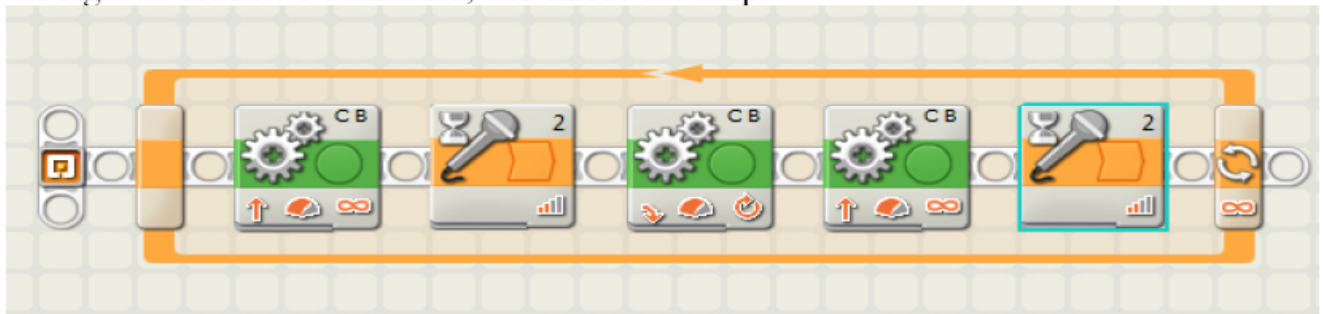

With the move command highlighted, verify the following settings in the control panel.
  a. Port: B and C selected

b. Direction set to forward
c. Steering slider to middle
d. Power set to 75
e. Duration set to unlimited
f. Next action set to brake

6) Mouse over the "wait for" icon [third from the bottom] and click on the touch icon [second in the pop-up list] then drag and drop the touch wait for command to the right of the move command, and inside the loop.
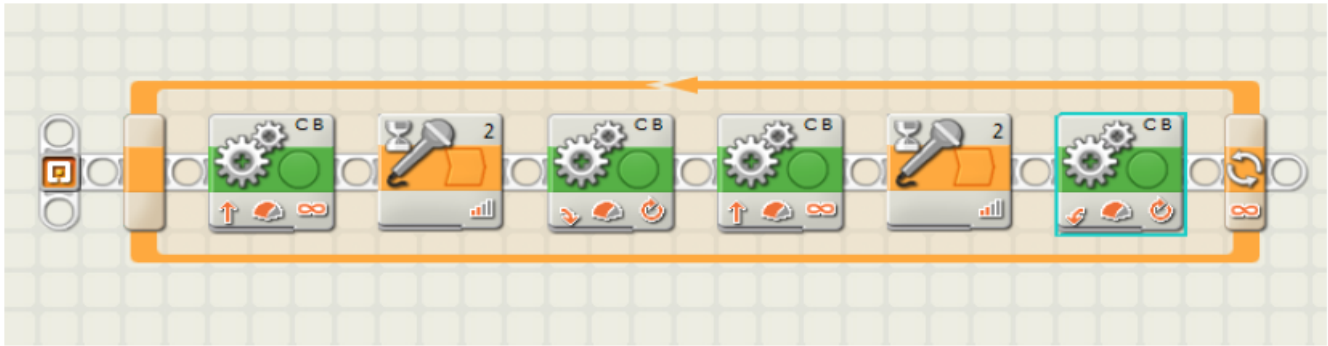

With the touch wait for command highlighted, verify the following settings in the control panel.
a. Control: Sensor
b. Sensor: Sound Sensor
c. Port: 2 (or whatever port the touch sensor is connected to)
d. Until: >60dB
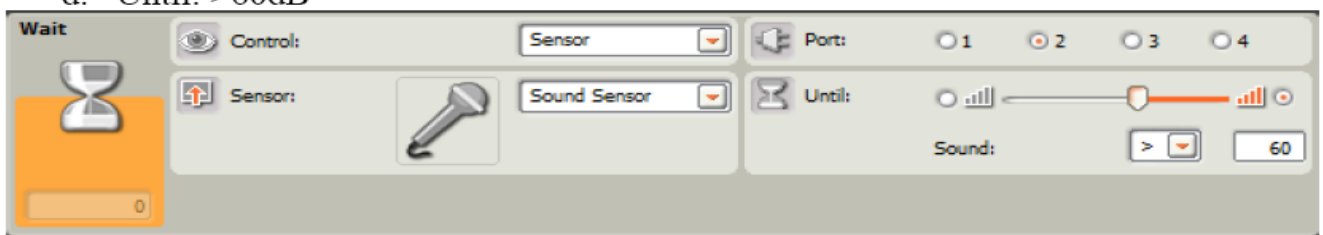
7) Click the "move" icon [first icon from the top] and drag and drop the move command to the right of the sound wait for command, and inside of the loop command.

With the move command highlighted, verify the following settings in the control panel.

    a.   Port: B and C selected
    b.   Direction set to forward
    c.   Steering slider to the left
    d.   Power set to 75
    e.   Duration set to 0.5 "Rotations"
    f.   Next action set to brake
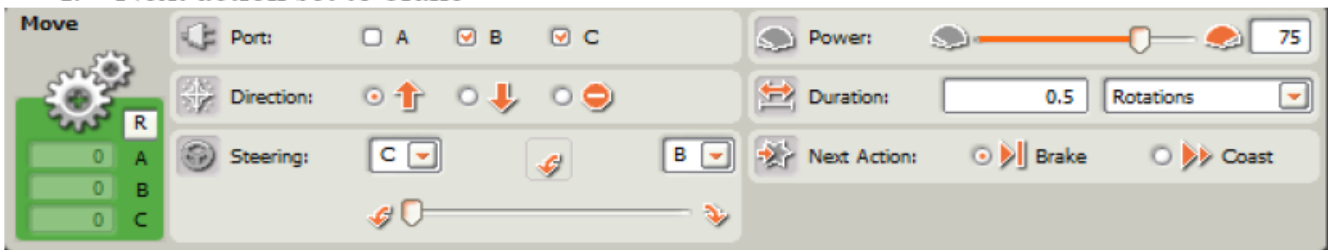
Troubleshooting:

If the robot does not turn when it hears the clap as expected:
1) Make sure the sensors/motors are connected to the correct ports.
2) Read back through the instructions and make sure all the properties for the commands are set correctly.