

Dancing Robot

Suggested Time

3 sessions (~45 minutes each)

Challenge

In this activity, design, construct and program an RCX or NXT dancing robot that has at least two moving parts and at most two motors. Set your robot's dance to music.

Age

8-18

Topics

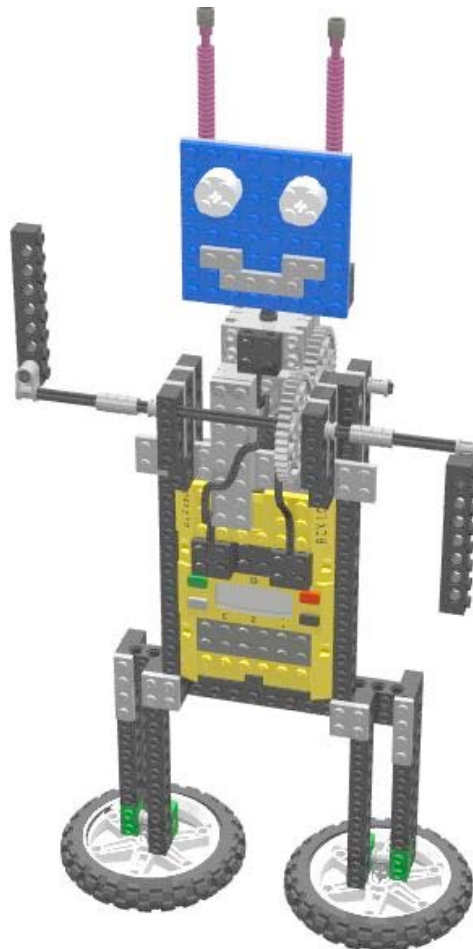
Building, Programming, Sensors & Music

Subjects

Technology & Engineering

Programming Themes

Motor Forward/Backward, Music, Subroutines, Task Split, Loops, Wait For Time & Power Levels

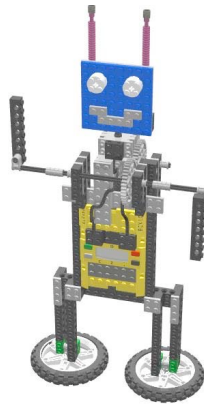


Materials

- RCX or NXT
- Assortment of LEGO Pieces

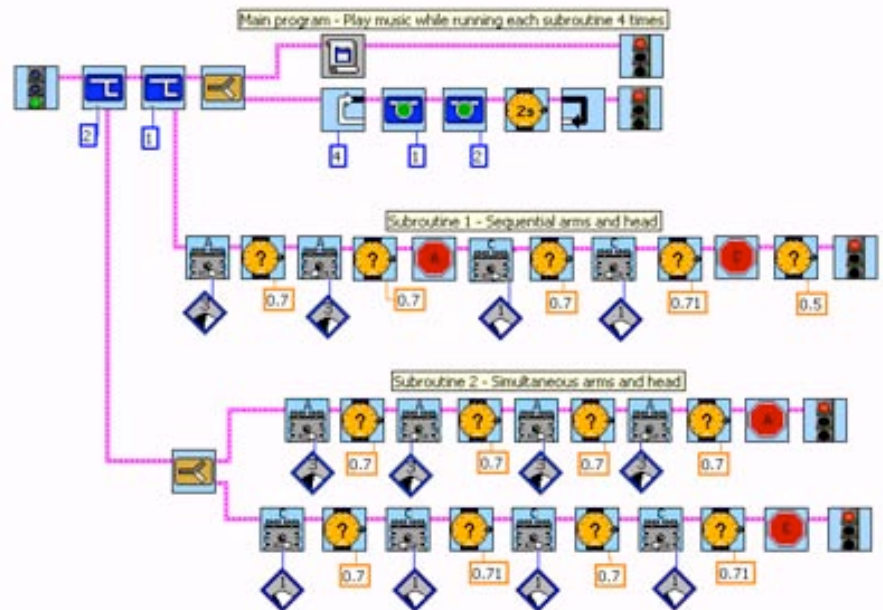
Building Instructions

1. Build an RCX or NXT robot that can dance. (200 pic), 2. Use gears to rotate the arm axle.



Programming Instructions

1. Choose whether to use ROBO LAB or the LEGO NXT Software to program (Note: You cannot use the LEGO NXT Software if you chose to build your dancing robot using the RCX).
2. Here is an example ROBO LAB INVENTOR 4 program.



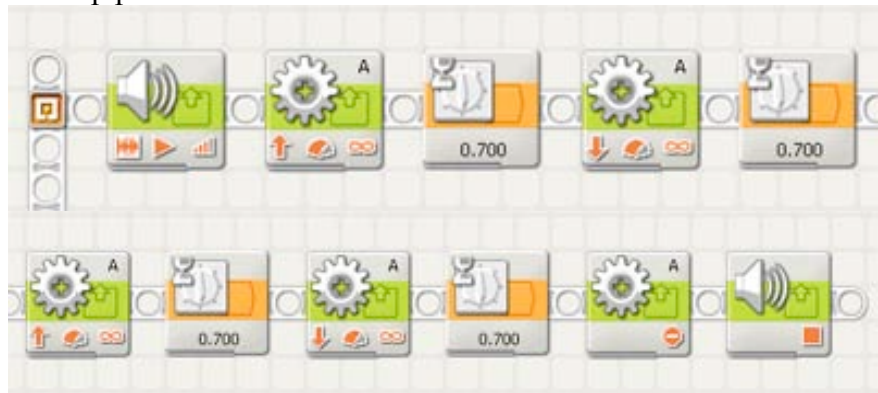
3. Click here to download an example ROBOLAB INVENTOR program (.vi).



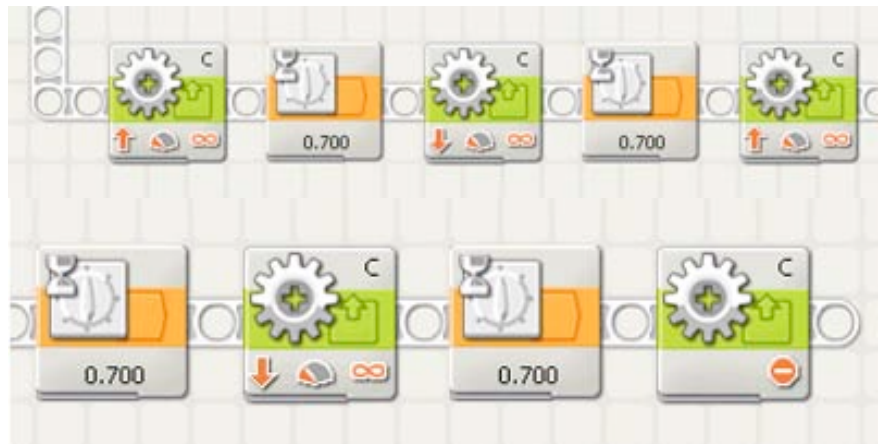
<http://www.legoengineering.com/activities/media/358dancingrobots.vi>

4. Here is an example LEGO NXT Software program.

The top portion runs the arms.



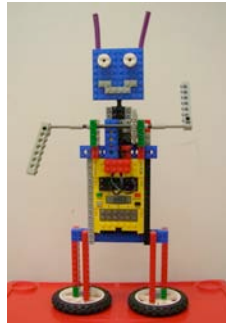
This Portion runs the Head



5. Click here to download an example LEGO NXT Software program (.rbt)



<http://www.legoengineering.com/activities/media/546dancingrobot.rbt>

In Action

Robots should function as if they are dancing to music that is being played from the RCX.

***Building and
Programming
References***

- Building With Bricks
- Building With Plates
- Building With Beams
- Axle Uses
- The RCX
- RCX Motors & Wires
- RCX Sensors
- The NXT
- NXT Motors & Wires
- NXT Sensors
- Gears