Make Your Robot Go Forward

Open Robolab 2.9 by double clicking on the icon.

Click on Programmer.

Double click on Inventor 4.
Delete the green light – select the green light and press the delete button on the keyboard. Use the SELECT tool to select the green light.

Replace with NXT green light
Click on the NXT green light and drop in program window.

Name the program - Use the text tool to select rbl. Delete rbl and type GO.
Add jumps and lands between the green and red lights.

To add the pink wires, use the wire tool. Click on the upper right of the green light. Then click on the upper left of the land. Wire the jump.
Add Fork (rotation sensor) and Merge to your program.
Add the numeric constant and the port to the rotation sensor fork.
Add the A and C motor commands and the stop command. Make sure the motors on your robot are plugged into ports A and C on the robot.

Download the program to your robot.

- Turn the robot on by pushing the orange button
- Plug the cable into the robot
- Push the white arrow in the program
- The program is loaded onto the robot when you hear the robot make a sound
- Push the orange button on your robot twice and you’ll see the program GO
- Push the orange button two more times to run your program
- Push the dark grey button to stop your robot
- Change the number to make your robot go further
- Change the number so that your robot won’t go so far
- Program your robot to go exactly 1 meter.
  - Cut a piece of string so that it wraps around one wheel of your robot. This is how far your robot goes for each 360 value in your numeric constant. So, your wheel will turn 5 times for a value of 1800 in your numeric constant.
- Count how many string lengths it will take for your robot to go 1 meter using a meter stick.
- Multiply the number of string lengths by 360 and enter this value in your numeric constant.
- Download the program to your robot and see if it goes the correct distance.
- Change how fast your robot goes by changing the speed (without an input to the motors, they go at their fastest speed).
Let’s replace the rotation sensor fork with a light sensor fork. Instead of a motor port, we need a sensor port – plug your light sensor into port 1 on the robot. What will the robot do?

Place a piece of tape on the floor. Get your robot to stop when it “sees” the tape.

What’s the difference between the program above and the program below?

Now control your robot using the sound sensor.
Next have your robot continue to move until you push the touch sensor. When the robot stops, have it make a sound.

Play a sound and change the sound by clicking on the fast rising sweep with the finger tool.