

16 Stop on the Third Line

Mission:

The robot will use a light sensor to sense when the robot has gone over 5 dark lines and then it will stop.

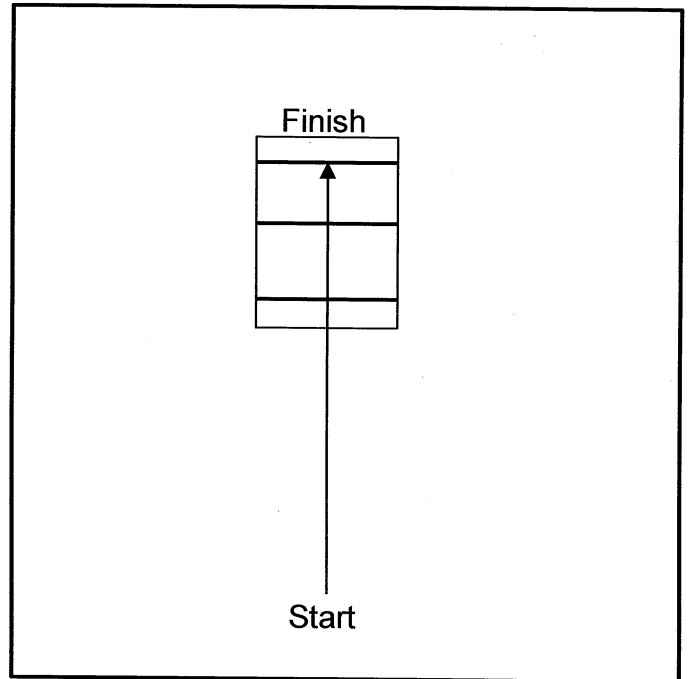
Equipment:

White table top or playing field.
Copy of three lines found at the end of this mission. Place it under the clear plastic sheet.

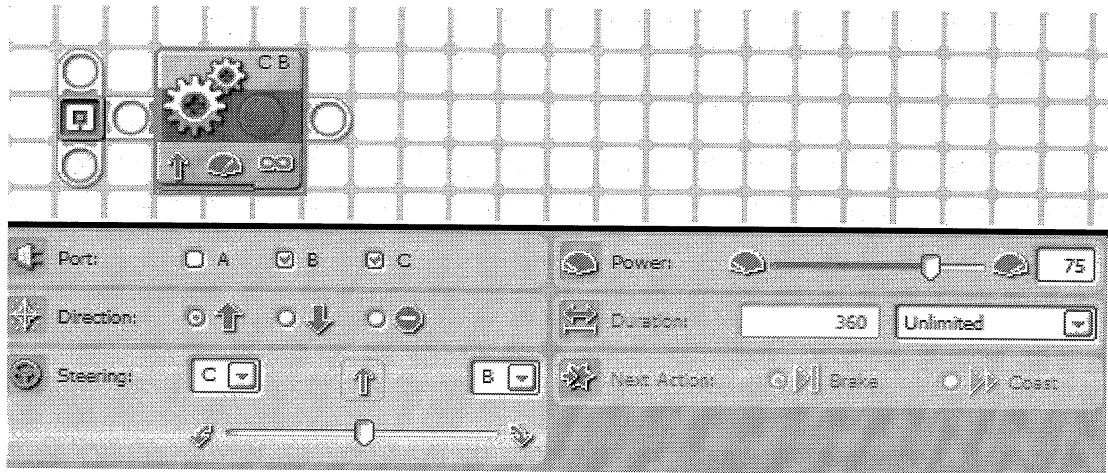
Sensors:

Light

Directions:



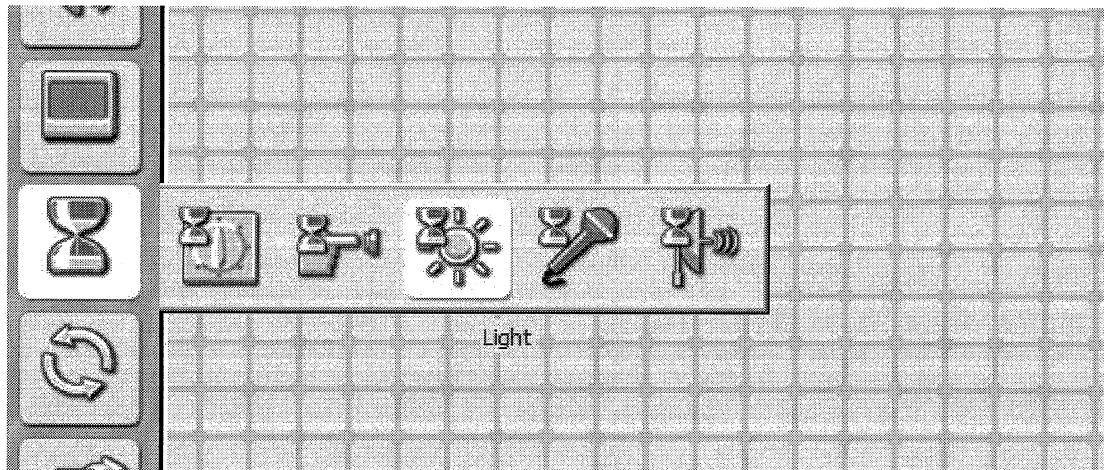
1. Place a move block at the beginning of the program line. Set it to unlimited.



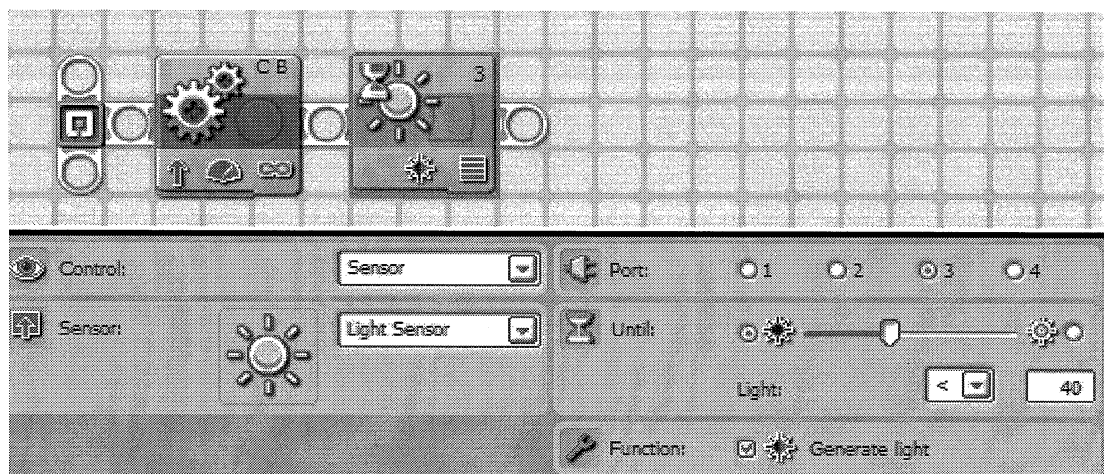
This will make the motors turn continually until a wait block is triggered and the program moves on to the next block.

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2. Move the cursor over the wait block and wait until a variety of wait blocks open up. Pick the light wait block. It looks like a shining sun.



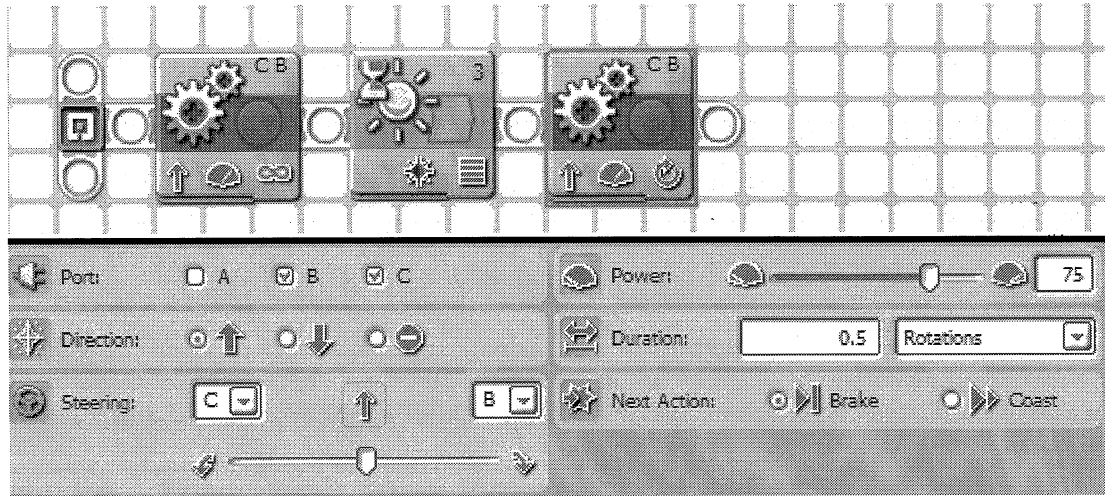
3. Place the light wait block on the bar and set it to less than and set the threshold to 5 points lower than the brightness of the white surface.



This will make the light wait block be triggered by anything somewhat darker than the white surface.

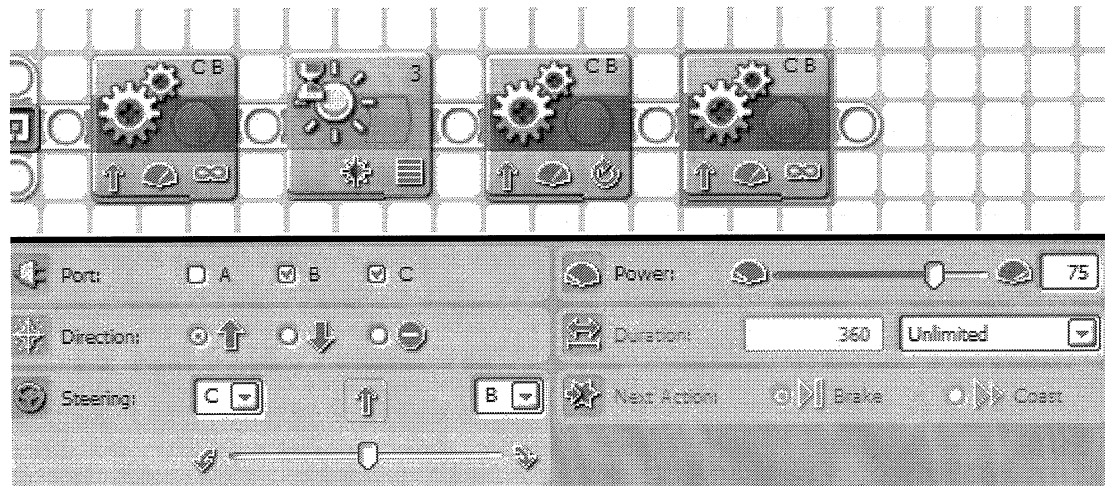
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4. Place a move block on the bar and set it for .5 rotations.



This will make the robot move past the dark tape and have the sensor over the white surface again.

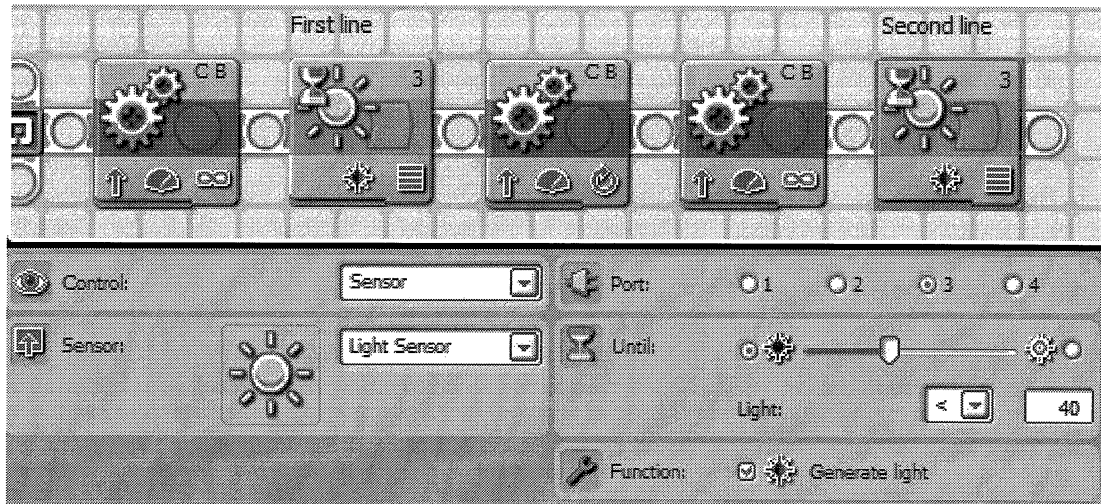
5. Place a move block on the bar and set it to unlimited.



This keeps the robot moving until the light sensor senses the next piece of dark tape.

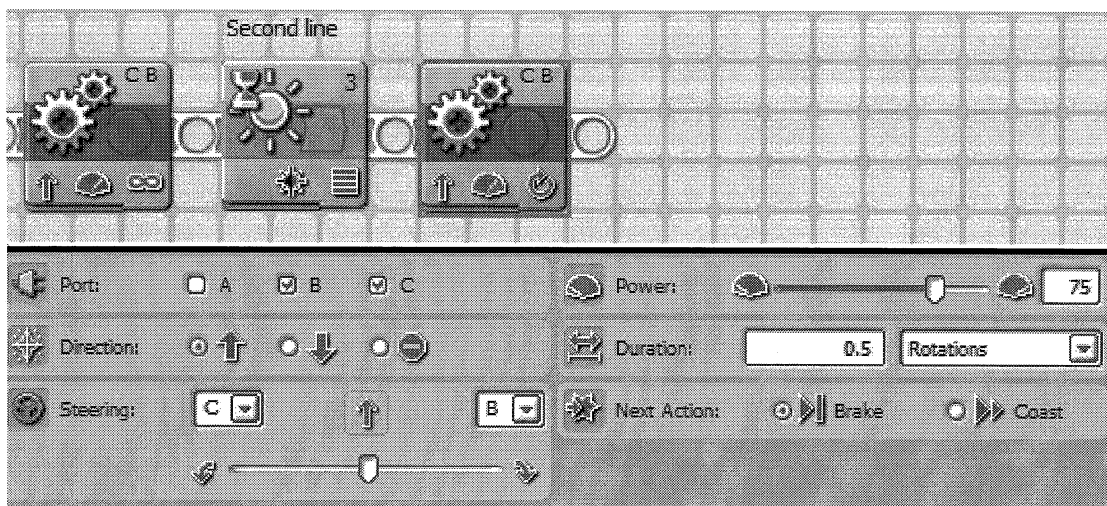
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6. Place another light wait block on the bar and set it to the same as the one in step 3.



This causes the light block to stop the move block and move on to the move block in the next step.

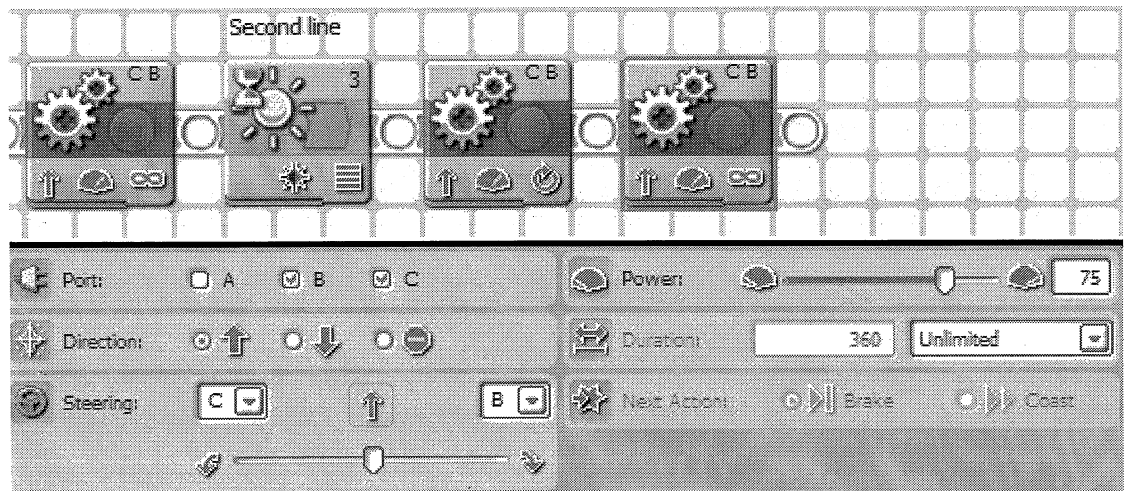
7. Place a move block on the bar and set it for 0.3 rotations.



This gets the robot past the second line of tape and gets the sensor over a white surface so it is ready to sense the next line of tape.

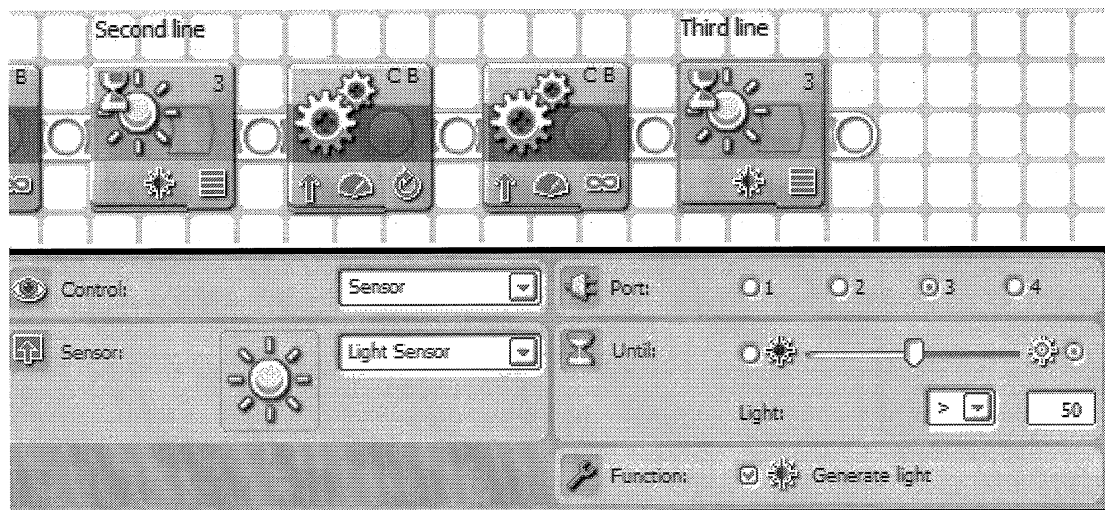
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8. Place another move block and set it for unlimited.



This gets the robot moving to find the 3rd line of tape.

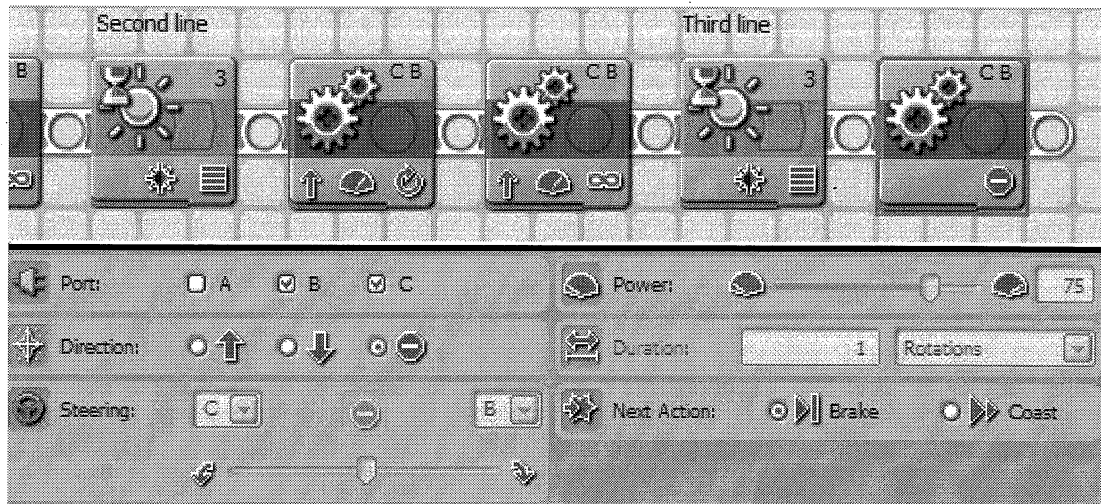
9. Place a light wait block and set it the same as step 3 and 6.



This will set up the light sensor to find the 3rd line of tape and then move the program along to the next step.

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10. Place a move block on the bar and set it for stop.



This stops the motors from turning so the robot will stop on the line.

NOTE: Turn to the next page for a set of three lines to use for this exercise. Copy this off and use it under the clear plastic on the practice field. Place it a little past the middle of the field and pick the starting position at random to show that the program is using the light sensor to know when to stop instead of just going a certain number of rotations.

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