

20 2 Halves of a Circle

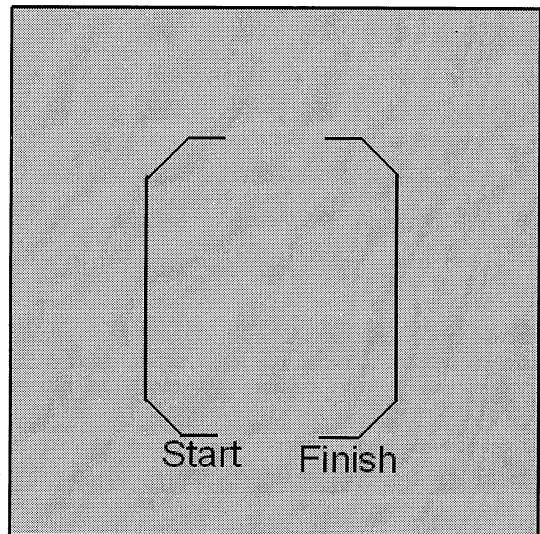
Mission: The robot will start at the word start and use the line following program from the last assignment to go around the loop on the test pad two times and stop where it started give or take one width of the robot.

Equipment:

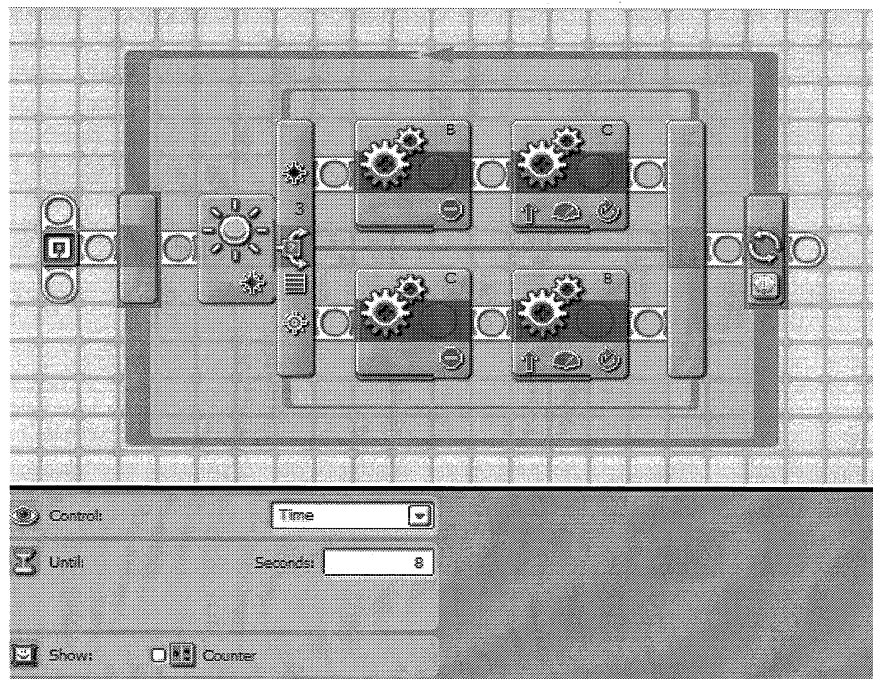
White table top or playing field.
Practice pad oval that came with the kit or blue or green masking tape to make an oval.

Sensors: Light

Directions: Attach the light sensor so it is at least two pennies above the surface.



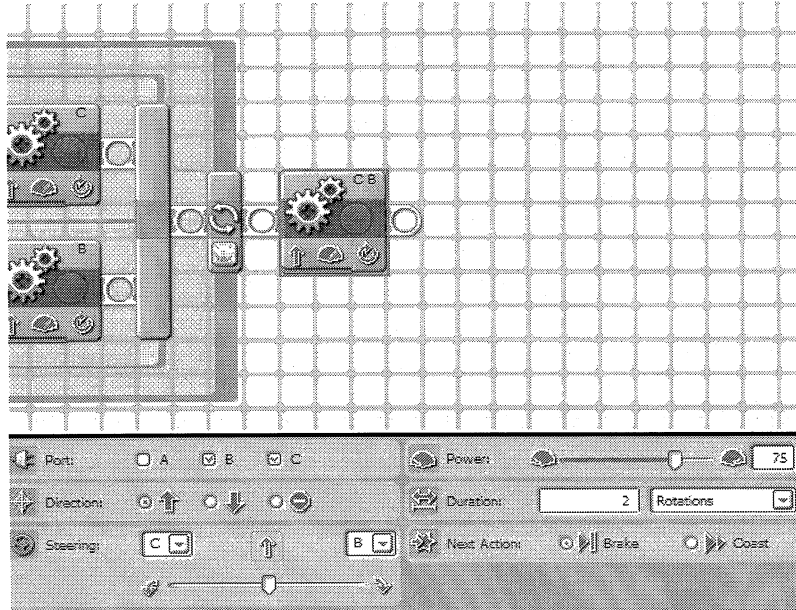
1. Use the light following program explained in the Follow the Line mission earlier. Change the loop to time and set it for about 8 seconds.



This makes the robot follow a dark line for 8 seconds which should be long enough for the robot to get a little over half way around the oval on the practice pad.

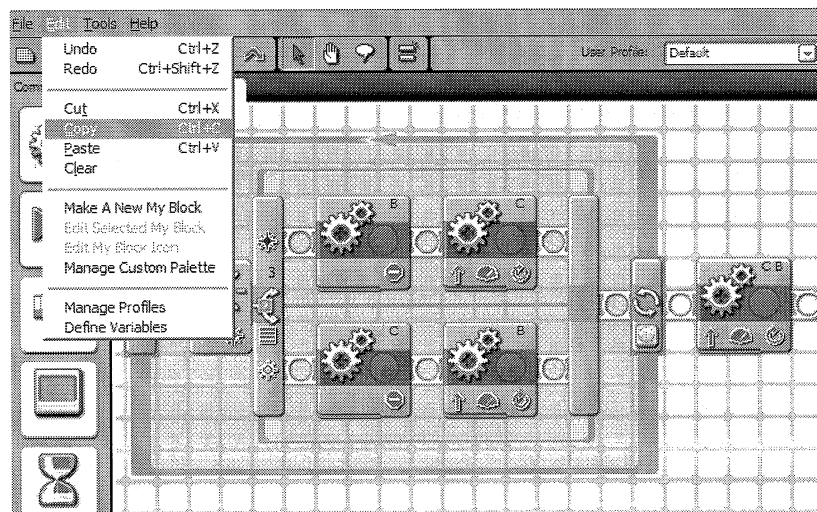
The purchaser has a site license to use and copy these materials only at a single school.
Copyrighted material. Mindstorms Made Easy by Karl B. Peterson.

2. Place a move block after the follow the line loop and leave it set for about two rotations.



This makes the robot move away from the first oval and over by the other oval. It is best to aim the robot to be a bit inside the loop so that when the next loop starts looking for the line, it will find it and start following it.

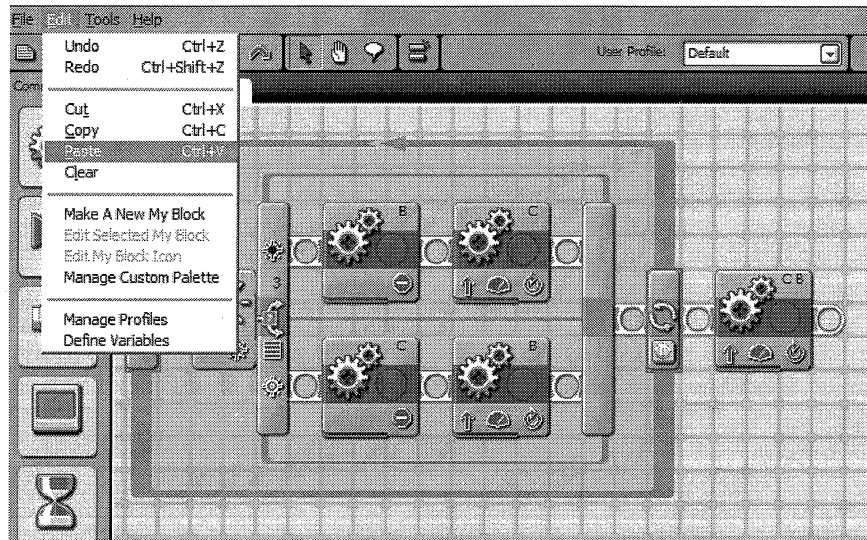
3. Click on the loop and go to edit to copy it.



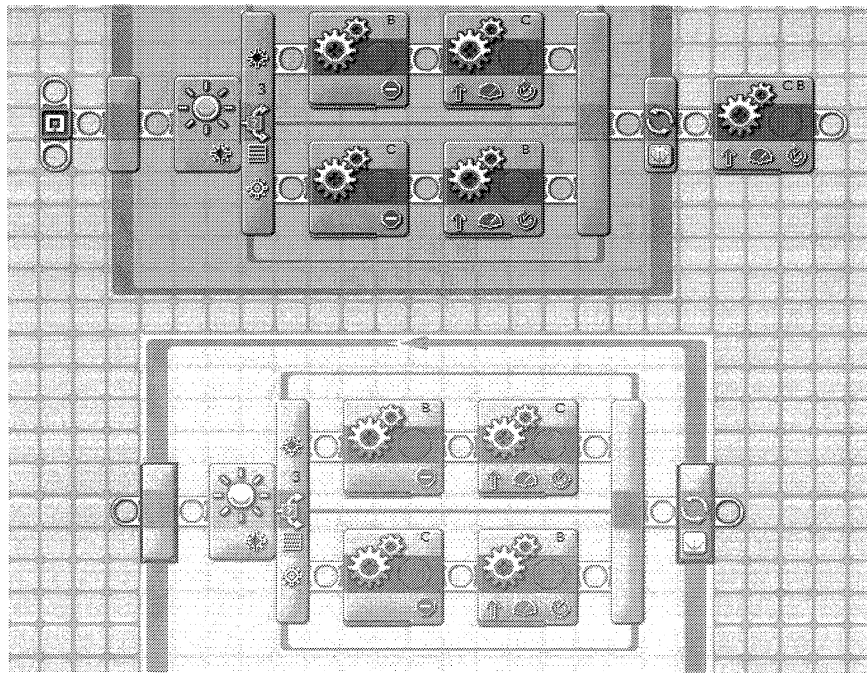
You can redo the loop piece by piece, but it is easier to copy and paste it. It is a good time-saver.

**The purchaser has a site license to use and copy these materials only at a single school.
Copyrighted material. Mindstorms Made Easy by Karl B. Peterson.**

4. Go back to edit and click paste.



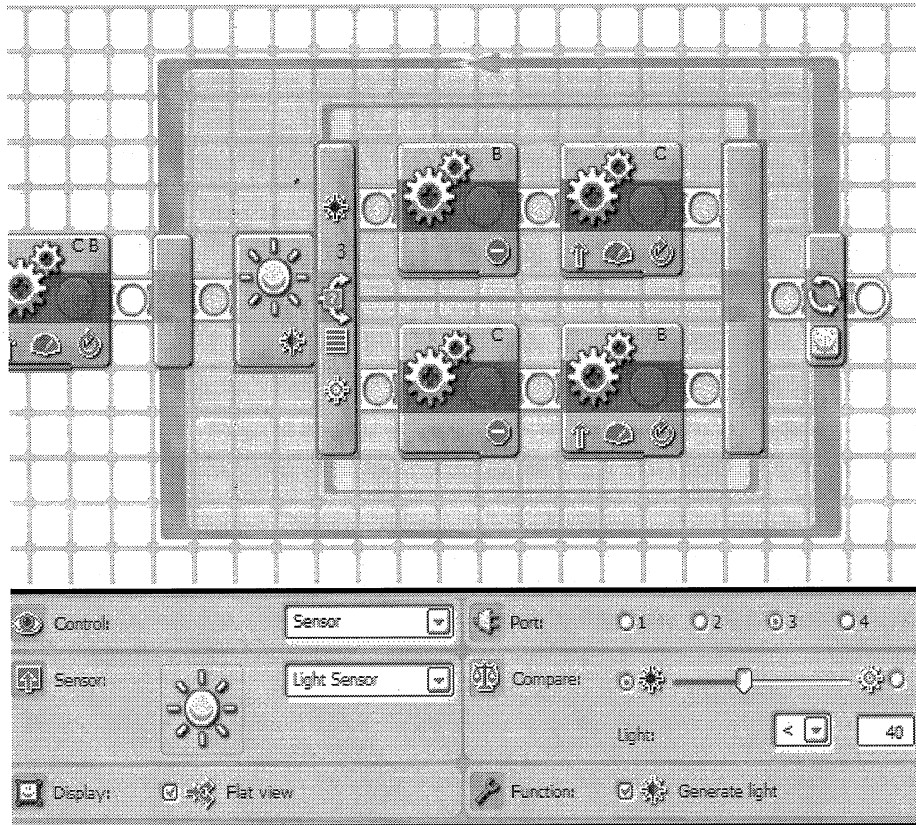
6. The loop is pasted into the program but not on the program line. You will need to click on it and move it to the end of the bar.



Notice the loop that the program pasted is lighter or "ghosted." This means that it is not part of the program since it is not on the bar. If you were to run the program right now, it the program will not run this section yet.

**The purchaser has a site license to use and copy these materials only at a single school.
Copyrighted material. Mindstorms Made Easy by Karl B. Peterson.**

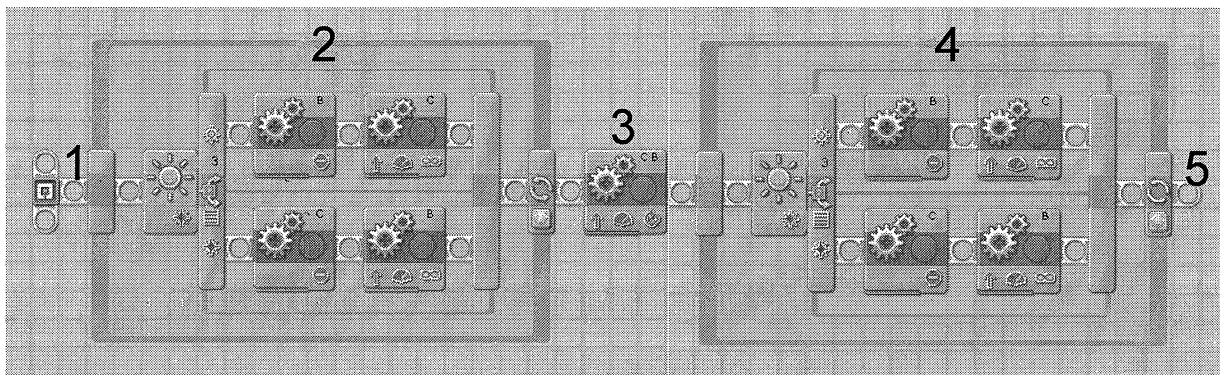
7. Now you have a program that has a loop, a move bar, and another loop.



Now the second loop is part of the program so it is now the same brightness as the other parts. The program will now do this loop as part of the program.

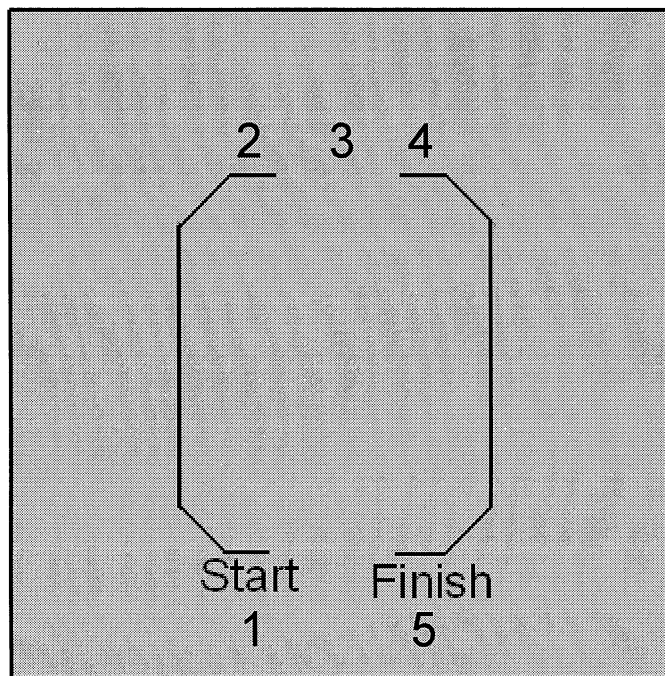
**The purchaser has a site license to use and copy these materials only at a single school.
Copyrighted material. Mindstorms Made Easy by Karl B. Peterson.**

8. The whole program looks like this.



The program will run like this:

1. *The robot starts on the word Start on the practice pad*
2. *The robot follows the line for a little over half the oval until it gets a little past the top part.*
3. *It then cuts across the top to a little inside the second oval.*
4. *Then the second loop in the program takes over and the robot follows the line around the line of the second loop.*
5. *It stops near the word "Start" on the practice pad (Finish on the illustration below).*



**The purchaser has a site license to use and copy these materials only at a single school.
Copyrighted material. Mindstorms Made Easy by Karl B. Peterson.**