

Task 1: Stop at Line

For this task, you should have the robot drive forward until it finds the red line. Then have it spin around on the spot.



HINT: To achieve this, you want the robot to have its motors on while it cannot see the red line, and then turn them off when it does.

Task 1: Stop at Line

This task involves programming the Mindstorms robot to drive forwards from the start zone (green) until its colour sensor detects the red line. When the red line is found the robot should spin on the spot and then the program should end.

Here is the process your robot should do:

Program starts

Start driving forward

Start looping forever

 If robot sees a red line stop looping

 If robot doesn't see a red line keep looping.

Once stopped looping, spin on the spot for 5 seconds.

Program ends



Science and
Technology
Facilities Council

Above is the task map for this activity.

Task 2: Line Counting

For this task you will need to write a program which has the robot move forward whilst counting any black lines it crosses, until it encounters the red line.



HINT: In order to count lines, your robot will need to store a number in its memory - much like you may remember a secret number!

Above is the task map for this activity.

Task 2: Line counting

This task involves programming the Mindstorms robot to drive forwards from the start zone (green) and count how many black lines it crosses until it sees the red line. When it sees the red line it should stop moving and display how many lines it counted. With this activity you need to be careful to make sure the robot only counts each line only once as it passes over them!

Here is the process your robot should do:

Program starts

Create a variable to remember as 0

Start driving forever

Star looping forever

If robot sees a black line increase the variable by 1

If robot sees a red line stop looping

If robot doesn't see a red line keep looping.

Once stopped looping, display the variable.

Program ends



Science and
Technology
Facilities Council

Task 3: Line Following

For this task you will need to write a program which has the robot move and follow the black line, until it reaches the red line.



HINT: It may be easier to think of the robot following the left edge of the line: if it sees black, how will it find the edge? What if it sees white?

Above is the task map for this activity.

Task 3: Follow the Line

This task involves programming the Mindstorms robot to drive forwards from the start zone (green) and follow a black line until it reaches a red line. When the robot finds the red line it should stop moving.

Here is the process your robot should do:

Program starts

Start looping forever

If robot sees the black line it should move to stay on it

If robot sees a red line stop looping

Otherwise move back towards the black line.

Once stopped looping, spin on the spot for 5 seconds.

Program ends



Science and
Technology
Facilities Council