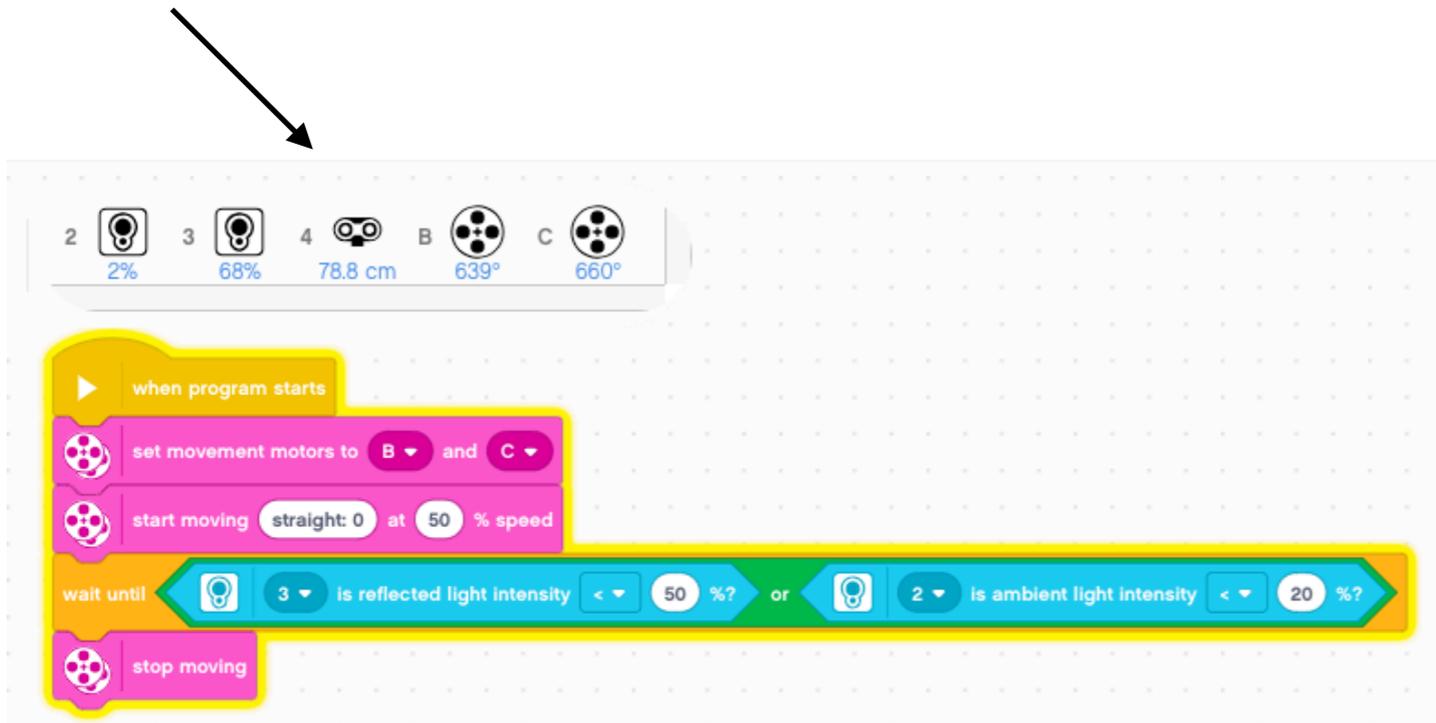


# How to use your sensor(s) readings

While your robot is connected to your device, you have a live look at what your robot's sensors 'see'.



The screenshot shows a programming interface with a top toolbar displaying sensor readings: Port 2 (2%), Port 3 (68%), Port 4 (78.8 cm), Port B (639°), and Port C (660°). Below the toolbar is a code block with the following steps:

- when program starts
- set movement motors to B and C
- start moving straight: 0 at 50 % speed
- wait until (3 is reflected light intensity < 50 %? or 2 is ambient light intensity < 20 %?)
- stop moving

**REMEMBER** your robot configuration:

Port 2 - Right colour sensor

Port 3 Left colour sensor

Port 4 - Ultrasonic Sensor

Port B - Left motor

Port C - Right Motor

This program is the "robot finds the edge" example.

In this example the robot has its **RIGHT** colour sensor **off** the table and the **LEFT** colour sensor **ON** the table.

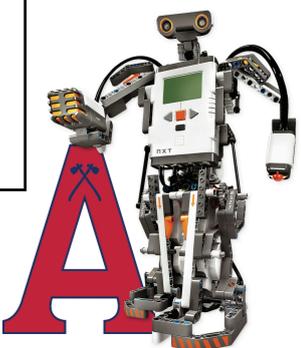
PORT 2 colour sensor reads 2% reflected light (this sensor is OFF the table)

PORT 3 colour sensor reads 68% reflected light (this sensor is ON the table)

PORT 4 ultrasonic sensor 'sees' something 78.8 cm away

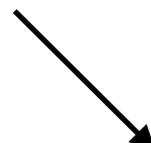
## IMPORTANT:

Depending on the conditions where you are using your robot, your robot sensor values may be different, you will need to adjust your programming to your robot's readings.



# How to use your sensor(s) readings - Part 2

While your robot is connected to your device, you have a live look at what your robot's sensors 'see'.



2 55% 3 67% 4 8.6 cm B 639° C 660°

when program starts

set movement motors to B and C

start moving straight: 0 at 50 % speed

wait until 3 is reflected light intensity < 50 %? or 2 is ambient light intensity < 20 %?

stop moving

**REMEMBER** your robot configuration:

Port 2 - Right colour sensor

Port 3 Left colour sensor

Port 4 - Ultrasonic Sensor

Port B - Left motor

Port C - Right Motor

This program is the “robot finds the edge” example.

In this example the robot has its BOTH colour sensor are **ON** the table.

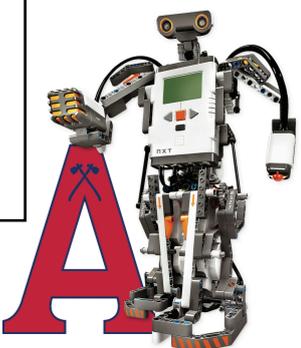
PORT 2 colour sensor reads 55% reflected light (this sensor is ON the table)

PORT 3 colour sensor reads 67% reflected light (this sensor is ON the table)

PORT 4 ultrasonic sensor 'sees' something 8.6 cm away

## IMPORTANT:

Your robot COLOUR sensors may not show the same reflected light %, you will need to find the THRESHOLD of the two values when programming your robot. You will want your robot to react to it's environment.



# How to use your sensor(s) readings - Part 3

## Thresholds

While your robot is connected to your device, you have a live look at what your robot's sensors 'see'.



2 55% 3 67% 4 8.6 cm B 639° C 660°

when program starts

set movement motors to B and C

start moving straight: 0 at 50 % speed

wait until 3 is reflected light intensity < 50 %? or 2 is ambient light intensity < 20 %?

stop moving

**REMEMBER** your robot configuration:

Port 2 - Right colour sensor

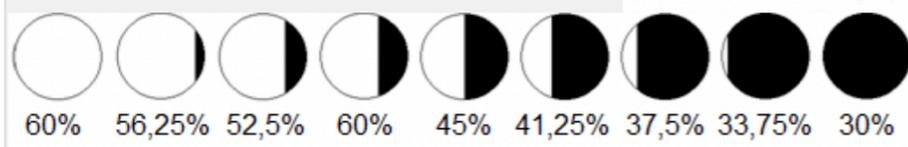
Port 3 Left colour sensor

Port 4 - Ultrasonic Sensor

Port B - Left motor

Port C - Right Motor

This program is the "robot finds the edge" example.



Your robot's colour sensor will read the reflected light as it moved from light (on table) to dark (off table).

The step from one color to another one is progressive, as well as the color sensor readings

### Think about it:

In the programming example above; if I want my robot to stop when either colour sensor is **OFF** the table I need to set my threshold to LESS than 50%.

2 is reflected light intensity < 50 %?

