

Analysing Sensors and Follow the Wall

The aim of Lab Task 3 is for Working Groups to further develop their understanding of the robotic sensors (Touch, Ultrasonic, Colour, Gyro) and use them to solve a variety of exercises.

Exercise 1: Create a comprehensive table of sensors readings - you should include the , Colour and Gyro sensors. You should conduct them in a series of physical settings to ensure you have the appropriate readings for the upcoming exercises.

Sensor	Physical Setting	Value
Colour Sensor	red color	...
Colour Sensor	Blue color	...
Gyro Sensor		...
...		

...

Exercise 2: The aim of this exercise is to create a robot which moves according to the surface it is moving on (using a Colour sensor). The robot should move according to the guidance below:

- On the carpet it should move forward at power 50.
- On the tape it should move at power 100.
- On white paper it should turn 180 degrees and move forward 2 rotations at power 30.
- Think up a fourth condition which the robot must respond to.

Exercise 3: Develop and create a robot to follow the outside of a wall. The robot should:

1. Move forward while keeping an appropriate distance from wall at all times.
2. Follow the wall around any corners (for the purpose of this exercise all corners will be 90°).
3. On the display of the EV3, you should show the current angle of the Gyro Sensor.

You must explain your hardware choices as well as how your code works.