Line follower Robot Report

(Thymio)

Used sensor: Proximity sensor

Output device: 2 motor

Program:

```
var speed
var devi


speed = 150


onevent prox
    devi = prox.ground.delta[0] - 200
    motor.left.target = speed + devi
    motor.right.target = speed - devi
```

Environment data:

Black line: around 200

This program start when the proximity sensors detect different value.

A constant variable is motor speed at 150

When the bottom 1 sensors detect different value, that's means it see two different color, at these case is the black line.

Then set variable "devi" to store the reading from the bottom left sensor and it is used to alter the motor speed

Explanation:

When the reading is around 200 which is the line, variable devi will become 0 which won't affect the motor speed, so thymio will go straight.

When the reading is greater than 225 or smaller than 175, thymio will start to turn to find the line. Once the thymio find reading is around 200, then it will do motion like above.

Improvement:

Should use one more sensor at the bottom for normalize the reading on the line and other color.

Software decision:

I use event proximity reading updated to trigger the program is because it can shorten the program length.

Hardware decision:

I only use one bottom sensor is because the bottom 2 sensors are too close together. Which is not wide enough to sandwich the black line between those 2 sensors and become not necessary.