SENSING ACTION WITH FUNCTIONS

SENSING Functions

Sensors are devices that are used to detect information about their surroundings. The sensors in our simulation send new information 60 times every second. For example, the distance to an incoming object may return 4.9, then 4.7, then 4.5 and so on, skipping distances in between.

(HINT: For this reason, it may be a good idea to use comparisons (< and >) rather than equalities (== and !=) when comparing sensor values)

We can use pre-made functions to read the latest values of these sensors in our code. We can then use the values of these sensors to determine the appropriate action for the character to take.

Our line following robot has a left, middle and right line sensor. Each of these sensors detects the amount of light reflected from the ground below the sensor.

These sensors return a value between 0 and 1 depending on how much light is reflected. A value of 0 indicates that the sensor is outside of the line, and a value of 1 indicates that the sensor is directly above the line. A fractional value, like 0.5, indicates that the sensor is half over the line.

LeftLineSensor()

This function retrieves the latest value of the left line sensor. It could be used to determine if the left side of the robot is on the line.

MiddleLineSensor()

This function retrieves the latest value of the middle line sensor. It could be used to determine if the centre of the robot is on the line.

RightLineSensor()

This function retrieves the latest value of the right line sensor. It could be used to determine if the right side of the robot is on the line.