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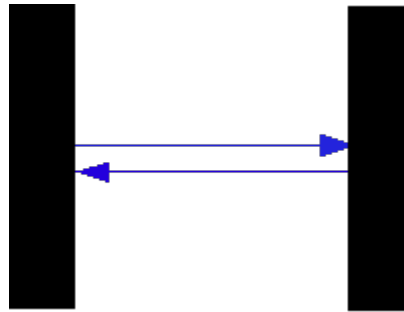
Series 2: Licht sensor

Used robot: Lego Robot with gear Gear and color or light sensor

1. Light and dark "see"

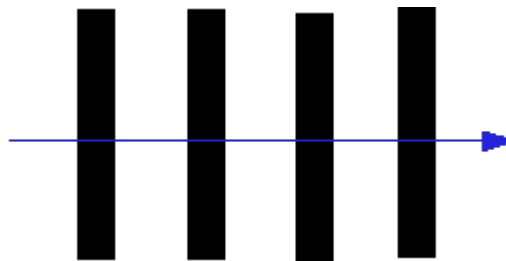
The robot with a light sensor moves between the two dark stripes. If black he "sees", he turns 180 degrees and moves back again.

For the simulation you can use the background [blackPanels.gif](#) and the template [TurnOnBlack.java](#) ((EV3Simu) [TurnOnBlack.java](#) (NXTSim))



2. Count strip

A Robot with a light sensor to drive across some dark streaks. At each next strip he generates an acoustic signal and increases the strip counter by 1. The number of strips to be continuously displayed on your computer screen.



Im **direkten Modus** wird die Streifenzahl auf dem Bildschirm in einem Consolen-Fenster ausgeschrieben. Dazu muss du ein Console-Fenster aus der Klasse `ch.aplu.util` hinzufügen und die Werte mit `c.println()` ausschreiben (siehe Beispiel [LightTest](#)).

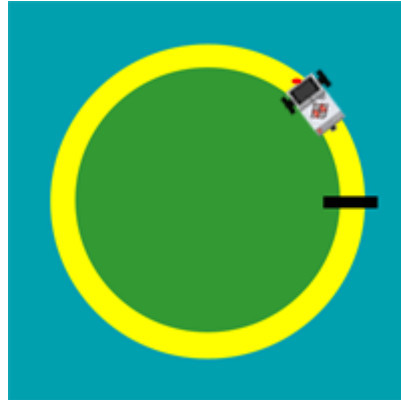
Im **autonomen Modus** kannst du die Anzahl Streifen auf dem LCD-Display

des Roboters anzeigen lassen (siehe Beispiel [LightTestAutonom](#)).

Für die Simulation kannst du das Hintergrundbild *panel.gif* und die Vorlage [CountPanels](#) (EV3Sim) or [CountPanels](#) (NXTSim) verwenden.

3. Racecourse

Robot with a light or color sensor is to follow the yellow race track. He should go exactly 3 rounds and then stop. To count the rounds, a black bar can be used. Create a similar colored race track and measure the light levels with the programs [LightTest.java](#)(EV3Direct) or [LightTest.java](#) (EV3Autonom).



For the simulation, you can use the background image *yellowPath.gif*. The light values in the yellow, blue and green sector can you find with [LightTest](#).

4. Light follow

If a robot with two light sensors of a light source such as a flashlight descendants. If the left light sensor lights, the robot moves left, the right light sensor is illuminated, so he goes right, otherwise straight (Only in the direct or autonomous mode).



5. Search path

A robot with two light sensors to retrace a path. Create similar background. This need not be round and may have some intersections.

For the simulation, you can use the background image *roundPath.gif* and templates [RoundPath.java](#) (EV3Sim) [RoundPath.java](#) (NXTSim).



6. Ant track

When an ant an ant trail follows and loses their trail, they make a circular movement in the hope of finding the path. In analogy to this behavior is the PathFinder using light sensors a white path that has the gaps that follow. When the robot encounters a gap, he has to run a small circle and thereby find the lost path.

For the simulation, you can use the background image *antPath.gif* and templates [AntPath.java](#) (EV3Sim) [AntPath.java](#) (NXTSim).

