# VPL Reference Card (Version 1.5)

## Events

**Buttons touched**

grey: ignore the button, red: must be touched

**Obstacle detectors**

grey: ignore detector, white: object close, black: object far

**Ground detectors**

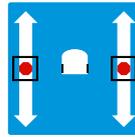grey: ignore detector, while: ground, black: no ground

**Robot tapped**

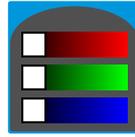Robot received a shock.

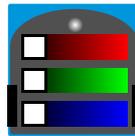**Hand clapped**

Robot heard a strong noise.

## Actions

**Set motor speeds**

Set left and right motor and wheel speeds.

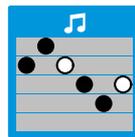**Set top colour**

Set a mixture of red, green and blue to robot's top.
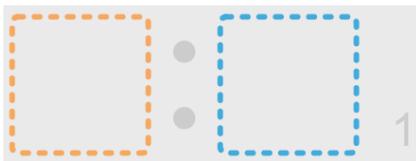
**Set bottom colour**

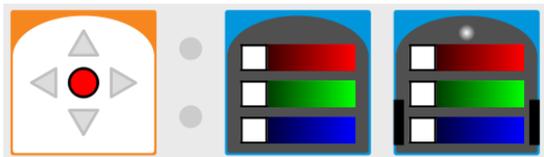Set a mixture of red, green and blue to robot's bottom.

**Play music**

Choose pitch, white twice the duration of black.

## Constructing your program

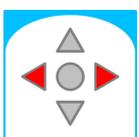Drag and drop events to the left square, actions to the right square.

When event happens, the robot executes the action.

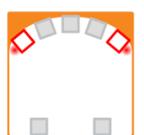Multiple actions associated with a single event. When event happens, the robot executes all the actions.

## Sensors are combined with AND in an event

If two sensors are selected, both conditions must be true for the event to happen.

Left **and** right must be touched or have an object close.

# Advanced Mode

## Events

**Remote control arrows**
Signal from the remote control, arrows buttons.

**Remote control keypad**
Signal from the remote control, keypad buttons.

**Obstacle detectors**
Sliders set high (object close) and low (object far) thresholds.

**Ground detectors**
Sliders set high (white / ground close) and low (black / ground far) thresholds

**Robot tapped**
Robot received a shock.

**Pitch accelerometer**
Pitch (forwards / backwards) is within the red segment.

**Roll accelerometer**
Roll (left / right) is within the red segment.

**Timer elapsed**
The timer has timed out.

## Actions

**Start timer**
Timer elapsed event will occur after some duration.

**Set robot's state**
Set the four-bit internal state of the robot.

## Events can be combined with a state

The robot's response to an event can depend on the robot's state. The event is considered only if the state corresponds the value of the green icon.