

Building a bumper

Real-life control situations often involve a computer program taking input through sensors and reacting to that input by adjusting outputs. If you have reached this far then you already know how to make motors run forwards and backwards and how to stop them. You also know how to wait for a touch sensor to be pressed or released. You are now going to use all that knowledge to program a bumper for your model.

Your model needs a bumper on the front that contains a touch sensor. Place a touch sensor on the front of your model. Now write a program so that the model moves forwards and the RCX detects that the bumper has hit something, then the model should move backwards away from the obstacle.

Try it out.

Another sensor idea

Try placing a light sensor on your model and have it move until it finds a dark area, when it should stop. You will need to use one of these symbols to control the light sensor.



Wait for the light sensor to detect a light reading above a particular level (55 by default)

Wait for the light sensor to detect a light reading below a particular level (55 by default)

You will also need to decide what light value represents “dark” (try a value like 30).

To indicate a different value from the default of 55, a *modifier* must be linked to the light sensor symbol. The modifiers can be found under this symbol in the Functions window. Select the blue-outlined box with the value 123 in it. The required light value can be typed once the symbol has been placed. The cotton reel attaches it to the fork symbol with a blue line rather than a pink line.



Summary

Having two motors that can be controlled separately means that we can build more interesting models and make them do quite complicated things with simple programs. If we include a sensor in the model then we can use input from the sensor to control what the outputs do.