SENSOR PACK V2.05

The sensor pack provides three sensors so that programs for Ohbot can be written make Ohbot react to light intensity, whether something has been touched and tilt:

The sensors connect to the Ohbot control board via black plugs. It is usually easiest to connect the plugs to the board before fixing the board in position at the back of Ohbot.

LIGHT SENSOR

Provides a value between 0 and 10 depending on the intensity of light sensed. High intensity of light will give a low value and low light intensity will give a high value.

PLUGGING IN THE SENSOR:

Locate pins A0 to A7 on the opposite side of the board to the ones used for Ohbots servos.

Select either A0, A1, A2 or A3. The one you choose doesn't matter as long as you remember which it is later.

Ensure that the plug is orientated so that the yellow cable is plugged in the on the side marked S and the brown/black cable plugs into the side marked G as shown below:
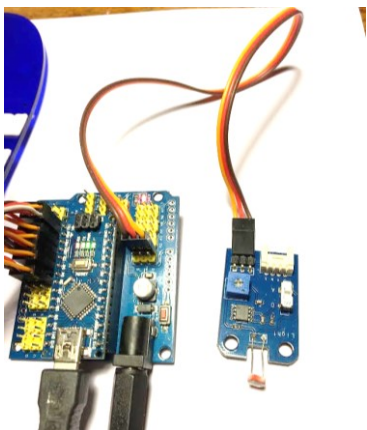

ACCESSING THE SENSOR VARIABLE IN THE OHBOT SOFTWARE

In Ohbot software on the Sensing menu find the block shown below


Click on the drop down chevron and select the pin you have connected to. So if you have connected the light sensor to A0 select Input 0, if A1 then select Input 1 and so on. Put a tick in the box next to the input block and you should see the value for the sensor shown at the top of the screen.

`Input 1: 4.2`
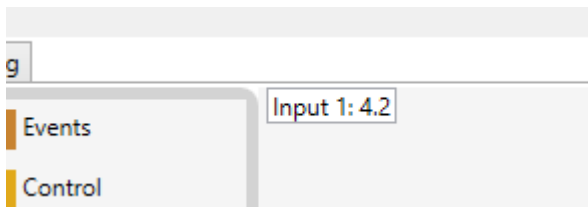
As you put your hand over the sensor you should find that the value changes accordingly.

TRY THIS

Ohbot can be made to respond to light levels by using this variable within your programs. This program will make Ohbot shut its eyes for 5 seconds sleep if it is dark.
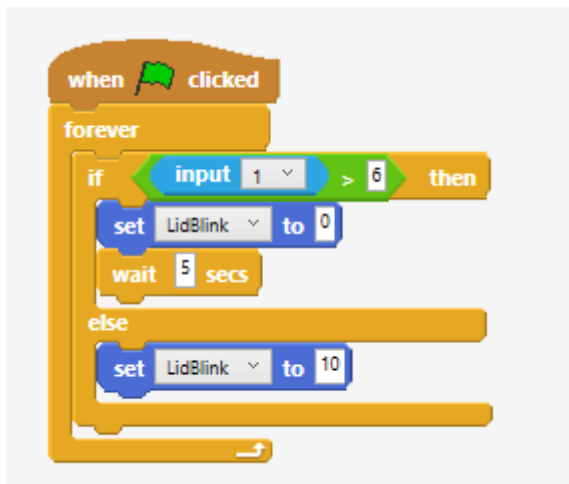
touch wire

TOUCH SENSOR

Provides a value depending whether the 'touch wire' on the end is touched. The valu will be 0 if not touched and 10 if the wire on end is touched. The sensor can be mounted behind Ohbot's nose with the touch wire touching against the back of Ohbot's nose. In this way Ohbot can sense when Its nose is touched.
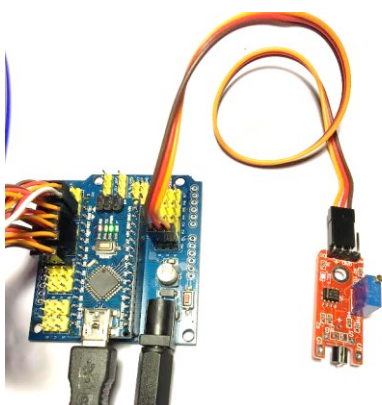
PLUGGING IN

Locate pins A0 to A7 on the opposite side of the board to the ones used for Ohbots servos.

Select either A0, A1, A2 or A3. The one you choose doesn't matter as long as you remember which it is later.

Ensure that the plug is orientated so that the yellow cable is plugged in the on the side marked S and the brown/black cable plugs into the side marked G as shown below:


ACCESSING THE SENSOR VARIABLE IN THE OHBOT SOFTWARE

In Ohbot software on the Sensing menu find the block shown below

Click on the drop down chevron and select the pin you have connected to. So if you have connected the touch sensor to A0 select Input 0, if A1 then select Input 1 and so on. Put a tick in the box next to the input block and you should see the value for the sensor shown at the top of the screen.
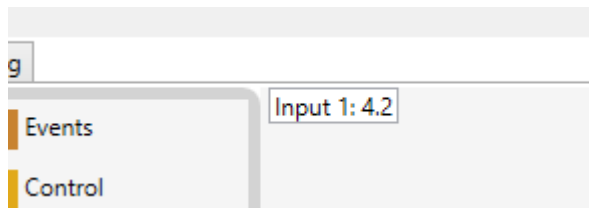
As you touch the touch wire at the end of the sensor board you should find that the value changes accordingly.

TRY THIS

Ohbot can be made to respond to touch by using the input variable for the touch sensor within your program. This program will make Ohbot smile if the sensor is not touched and frown if the sensor is touched.
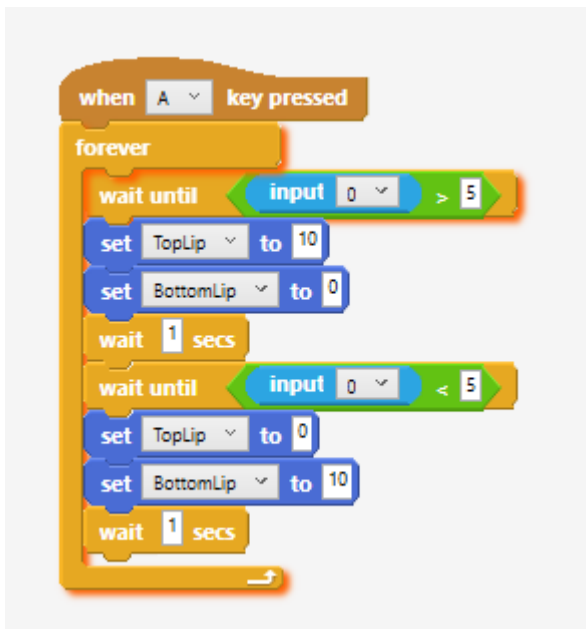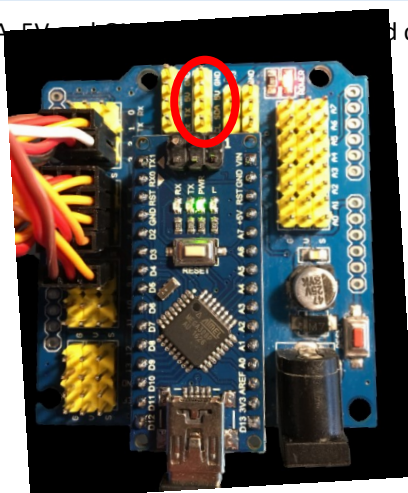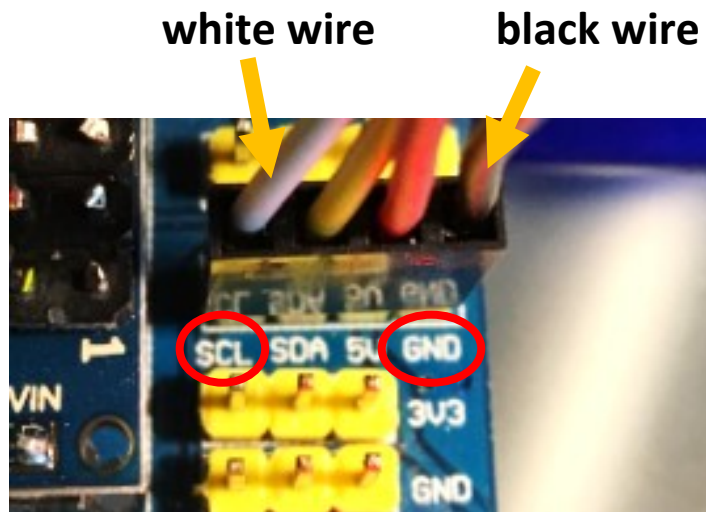

TILT SENSOR

Provides two values based on the tilt and turn of the sensor.

PLUGGING IN

Locate the set of four pins marked SCL, SDA, 5V and circle on the image below:

Connect the plug from the tilt sensor so that the black wire is located next to the GND pin. The white wire should be next to the pin marked SDL as shown.

ACCESSING THE SENSOR VARIABLES IN THE OHBOT SOFTWARE

Before you can start using the tilt sensor a file will need to be saved into the Ohbot folder in My Documents.

1. Download the file from here: www.tinyurl.com/tiltsensorohbot
2. Save it into the Ohbot folder that is in My Documents or Documents

TRY THIS

Ohbot can be made to move following the position of the sensor. This program sets the headturn and headnod position to the X and Y variables from the tilt sensor.