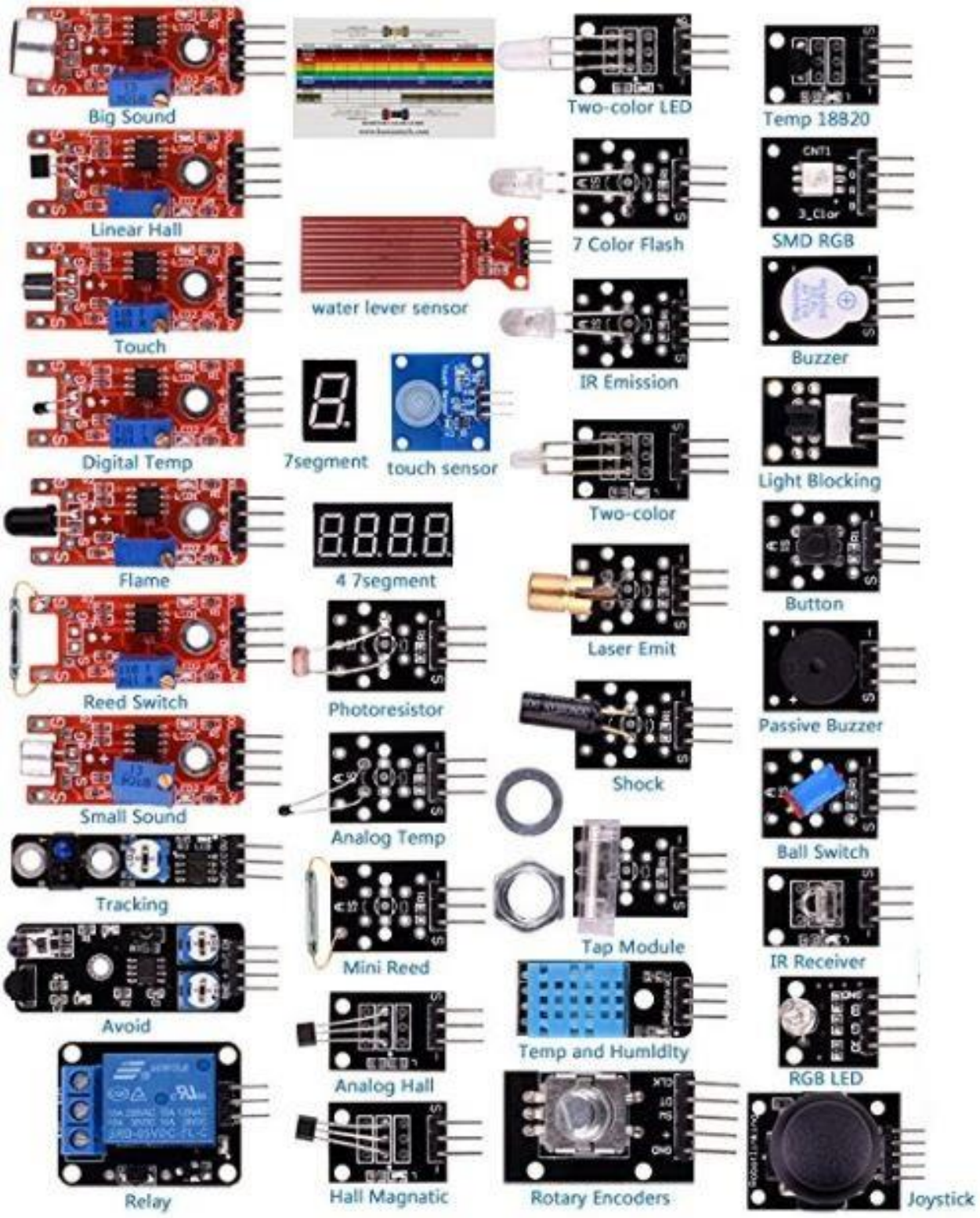
UNIVERSITY OF NEVADA LAS VEGAS

SENSOR KIT FOR ARDUINO ON RASPBERRY

Matthieu Cambusier

List of sensors :



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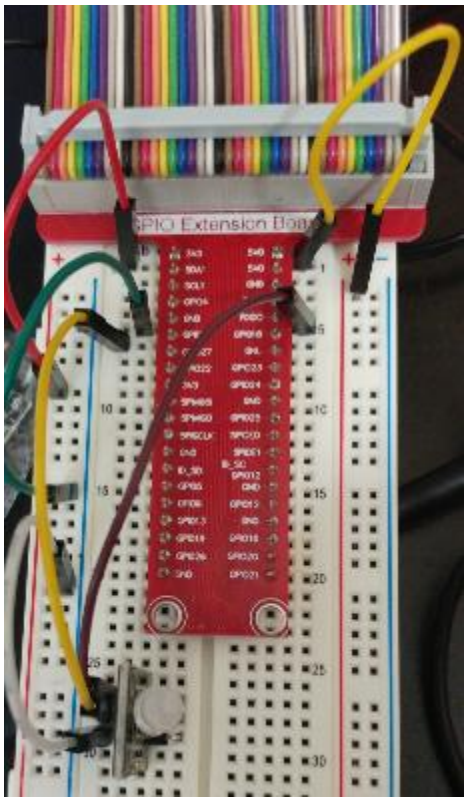
Sensors working without the ADC8032 :

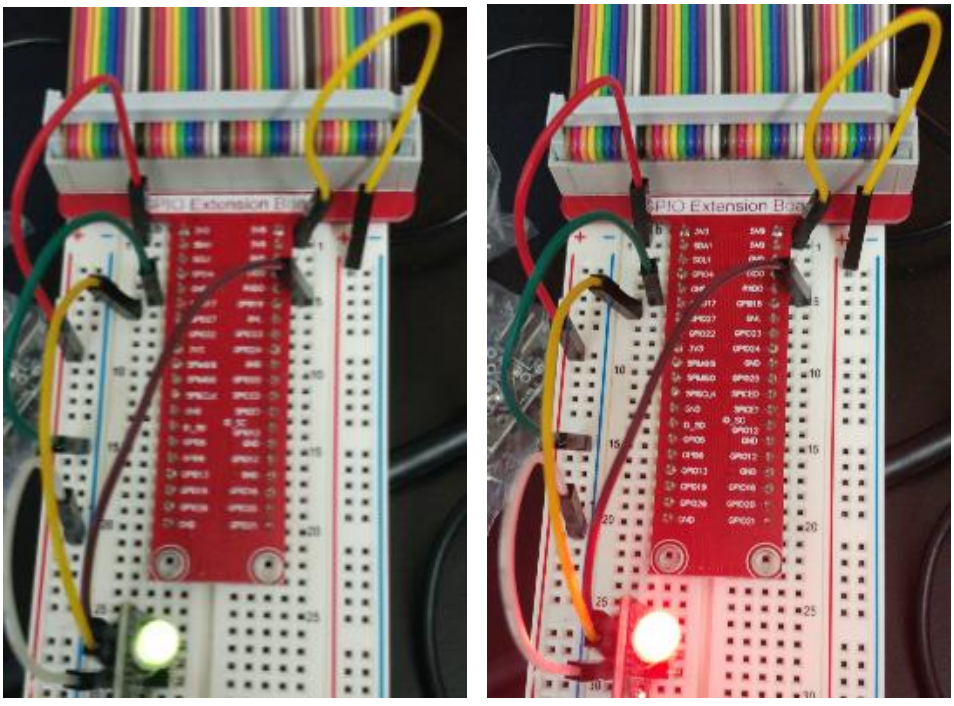
1) Double color led :

The picture below shows how to connect the double color led :



Picture : The double color led connected to the raspberry

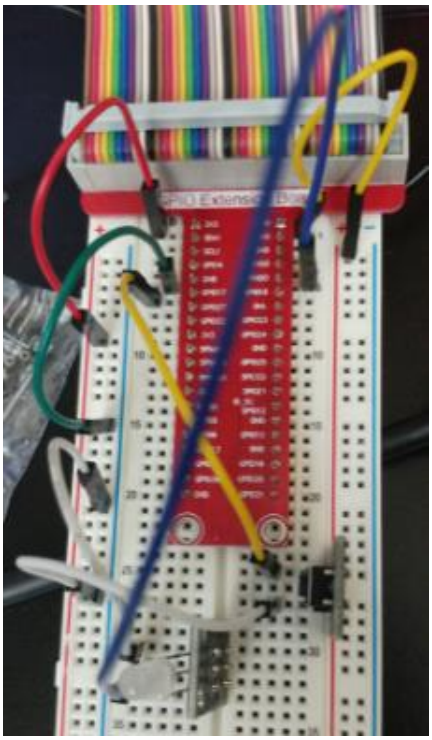
If you execute the code, you will see the light's color change either in green or red.



Picture : The double color led lighted up

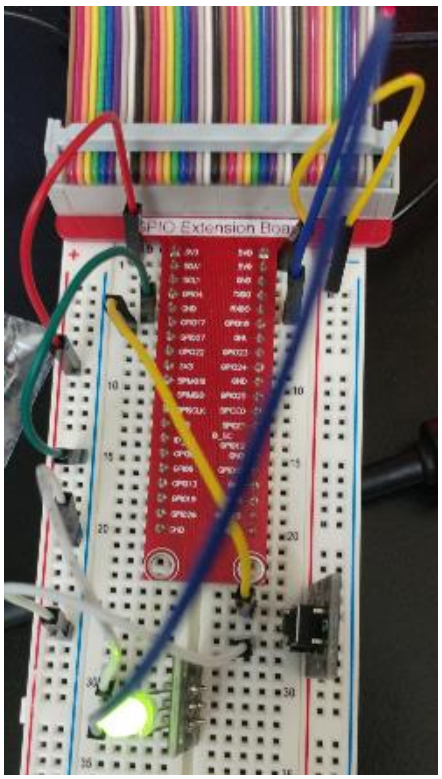
2) Button :

The picture below shows how to connect the button and the double color led :



Picture : The button and the led wired

When you push on the button, the led is lighted up and if you push again the led will switch off. It's like a switch.



Picture : Button pushed

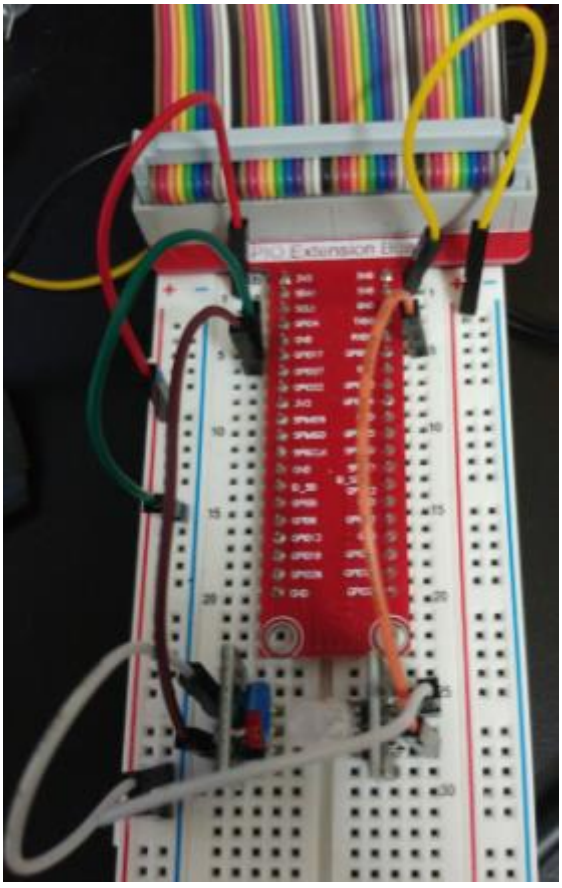
In the terminal, you can know the state of the led

```
LED: on
LED: off
LED: on
LED: off
LED: on
```

Picture : State of the led

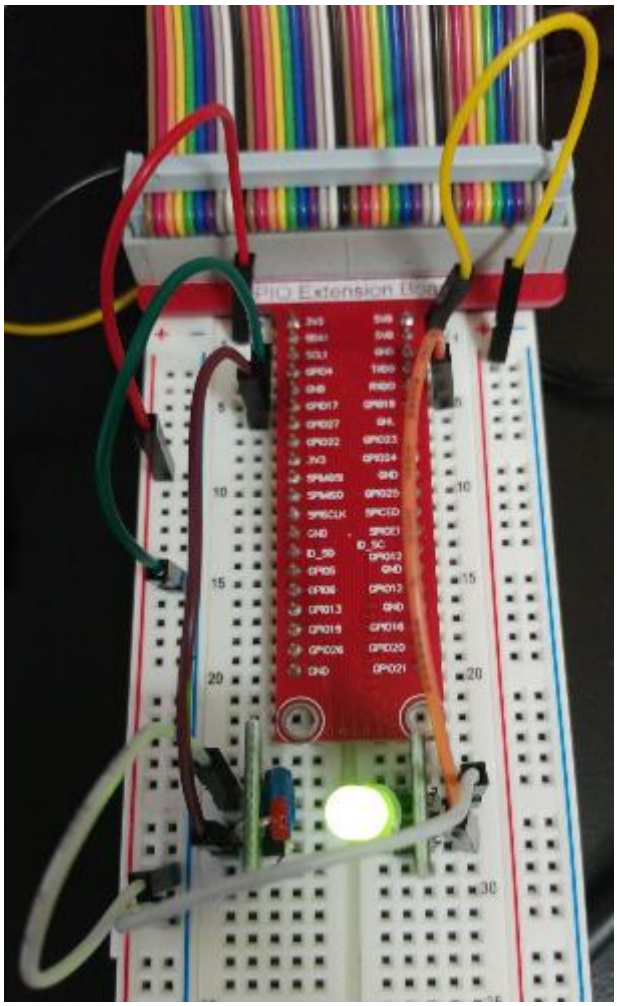
3) Ball switch :

The picture below shows how to connect the ball switch and the double color led :



Picture : The ball switch and the led wired

The led will flash once you execute the code.



Picture : Execution of the code

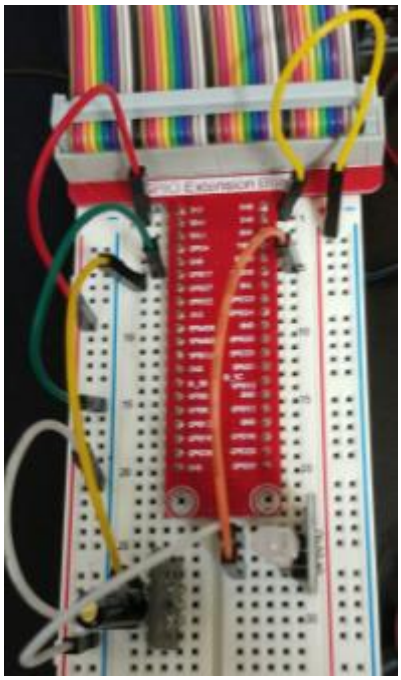
You can know the state of the led in the terminal

```
LED: on
LED: off
LED: on
LED: off
```

Picture : State of the led

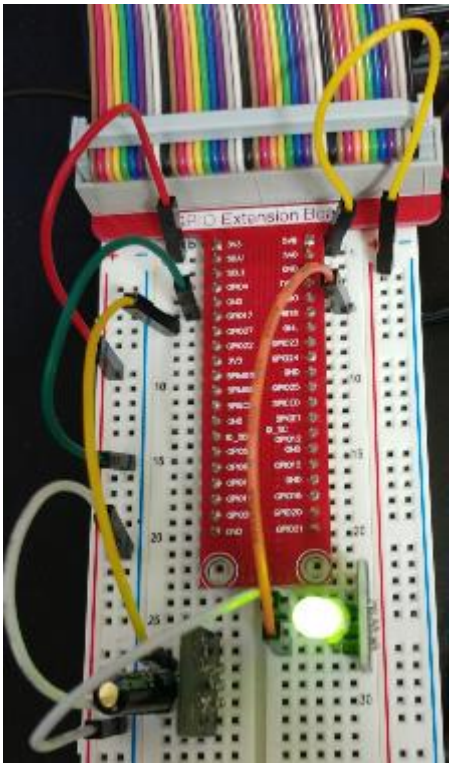
4) Shock :

The picture below shows how to connect the shock and the double color led :



Picture : The shock and the led wired

To light up just provocke a shock on the shock sensor.



Picture : Led lighted up thanks to the shock

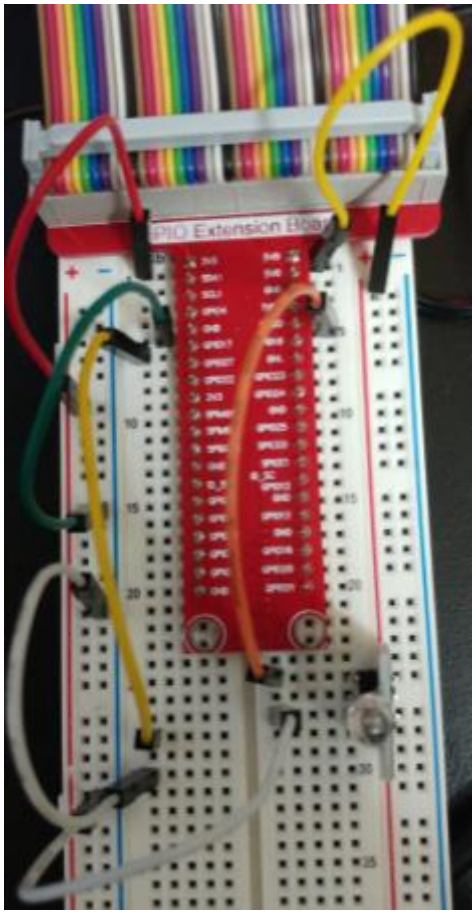
You can know the state of the led in the terminal

```
LED: on
LED: off
LED: on
LED: off
```

Picture : State of the led

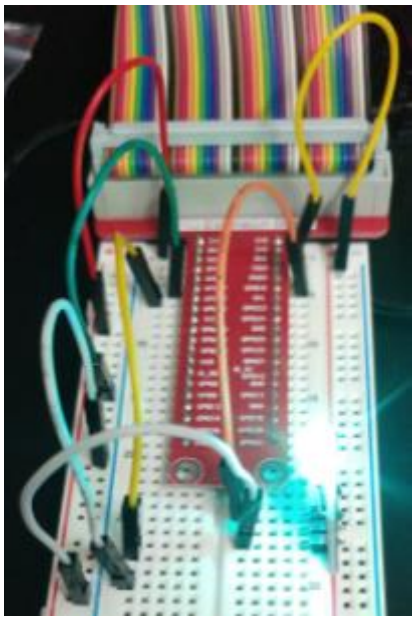
5) IR emission :

The picture below shows how to connect the IR emission led :



Picture : The IR emission led wired

The led will flash once you execute the code.



Picture : Execution of the code

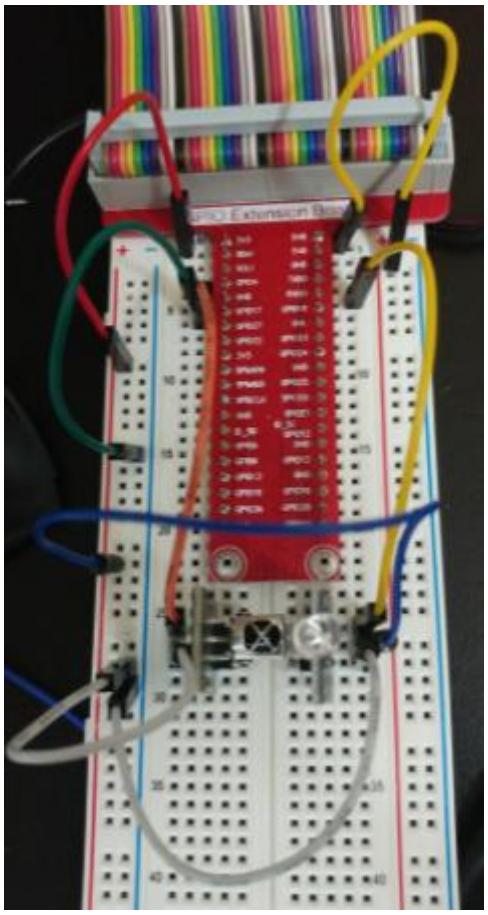
You can know the state of the led in the terminal

```
...led on
led off...
...led on
led off...
...led on
led off...
...led on
led off...
...led on
led off...
...led on
led off...
```

Picture : State of the led

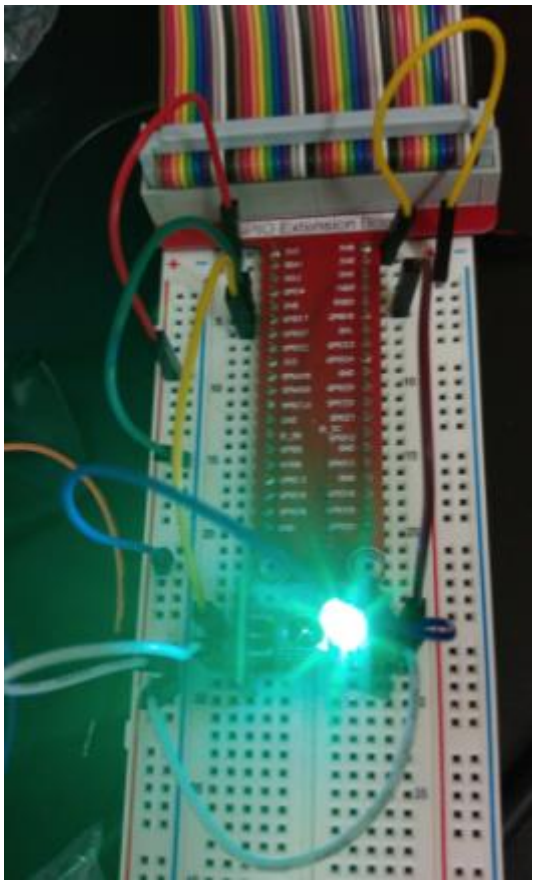
6) IR reception :

The picture below shows how to connect the IR reception and the IR emission led :



Picture : The IR emission and IR reception led wired

The led will flash once you execute the code.



Picture : Execution of the code

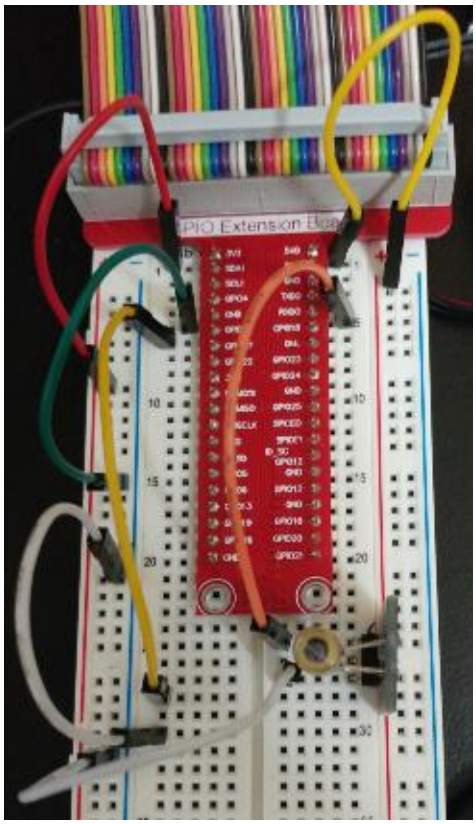
You can know the state of the led in the terminal

```
...led on
led off...
...led on
led off...
...led on
led off...
...led on
led off...
...led on
led off...
```

Picture : State of the led

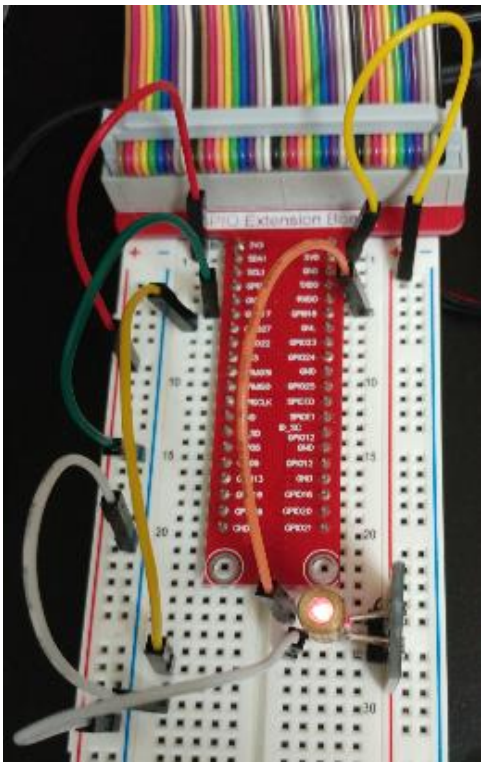
7) Laser :

The picture below shows how to connect the laser :



Picture : The laser wired

The laser will flash once you execute the code.



Picture : Execution of the code

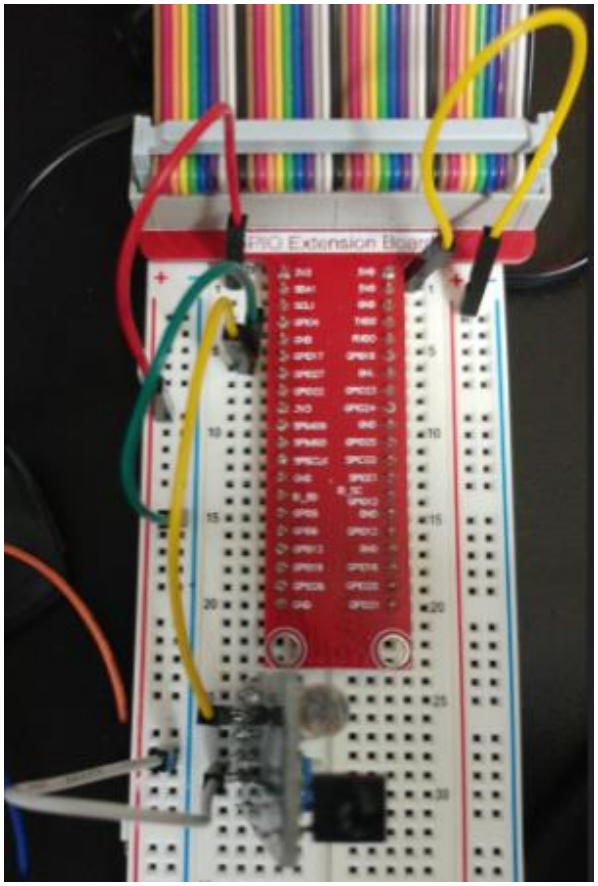
You can know the state of the laser in the terminal

```
...led on
led off...
...led on
led off...
...led on
led off...
...led on
led off...
...led on
```

Picture : State of the led

8) Avoid :

The picture below shows how to connect the avoid :



Picture : The avoid wired

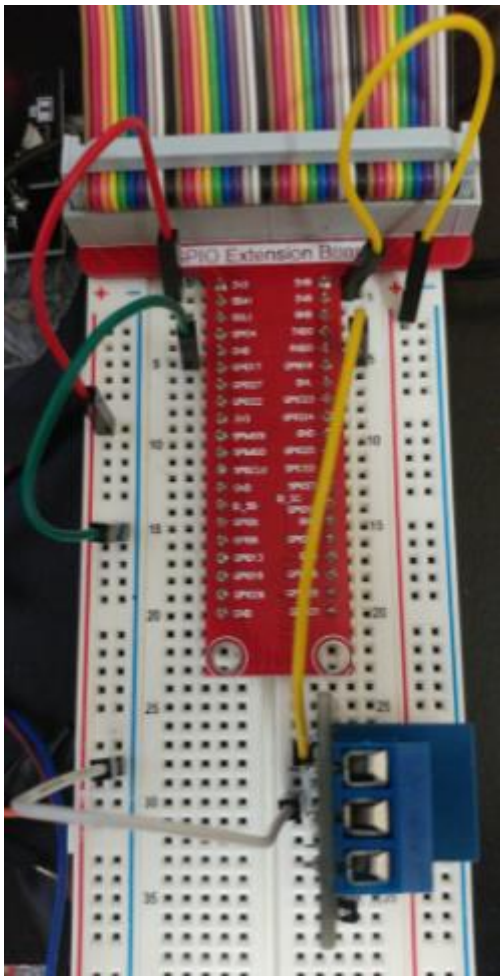
In the terminal, you can see if the avoid detect something

```
Barrier is detected !
Barrier is detected !
Barrier is detected !
Barrier is detected !
Barrier is detected !
Barrier is detected !
^Cclose failed in file object destructor:
sys.excepthook is missing
lost sys.stderr
```

Picture : Detection of the barrier

9) Relay :

The picture below shows how to connect the relay :



Picture : The relay wired

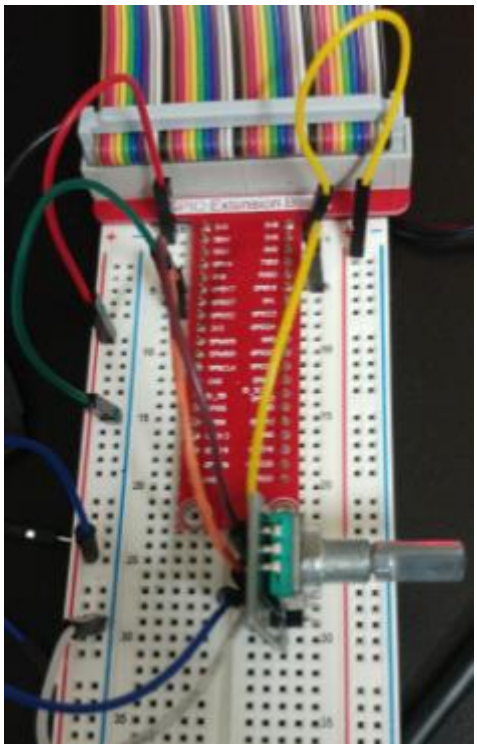
You can know the state of the relay in the terminal

```
...relayd on
relay off...
...relayd on
relay off...
...relayd on
relay off...
...relayd on
relay off...
...relayd on
relay off...
```

Picture : State of the relay

10) Rotary encoders :

The picture below shows how to connect the rotary encoders :



Picture : The rotary encoders wired

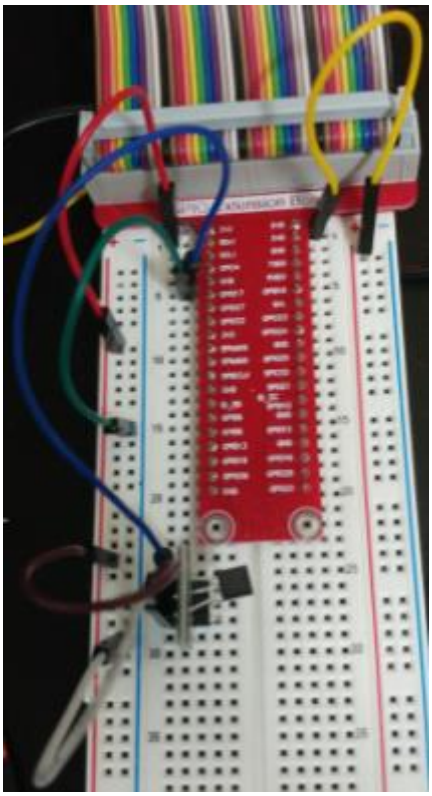
In the terminal you can know the number of rotation you are doing.

```
globalCounter = 1
globalCounter = 0
```

Picture : Number of rotation

11) TEMP18B20 :

The picture below shows how to connect the TEMP18B20 :



Picture : The TEMP18B20 wired

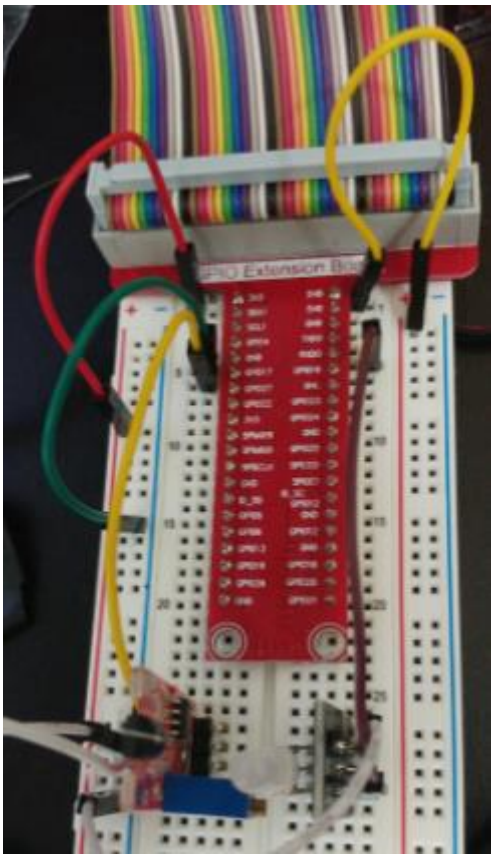
In the terminal the current temperature is displayed.

```
Sensor: 28-0217c00e07ff - Current temperature : 25.875 C
Sensor: 28-0217c00e07ff - Current temperature : 25.875 C
Sensor: 28-0217c00e07ff - Current temperature : 25.812 C
Sensor: 28-0217c00e07ff - Current temperature : 25.812 C
Sensor: 28-0217c00e07ff - Current temperature : 25.750 C
Sensor: 28-0217c00e07ff - Current temperature : 25.750 C
```

Picture : Display of the temperature

12) Touch :

The picture below shows how to connect the touch and the double color led :



Picture : The touch wired

To light up the led just touch the « touch » sensor.

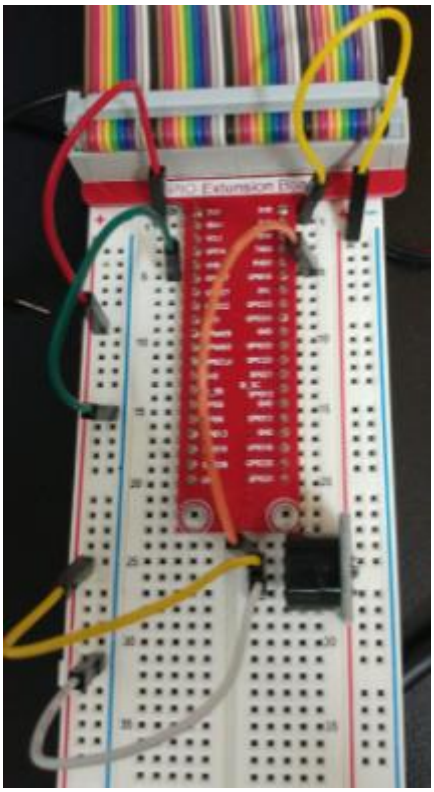
You can see the led state in the terminal :

```
...led on
...led on
...led on
...led on
...led on
led off...
led off...
led off...
led off...
led off...
led off...
led off...
```

Picture : State of the led

13) Buzzer/Passive buzzer :

The picture below shows how to connect the buzzer (or passive buzzer) :

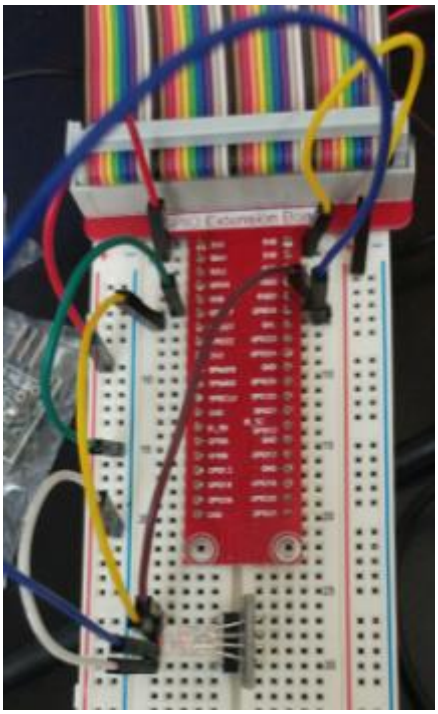


Picture : The buzzer wired

When you execute the code, you will hear a sound that come out from the buzzer (or the passive buzzer).

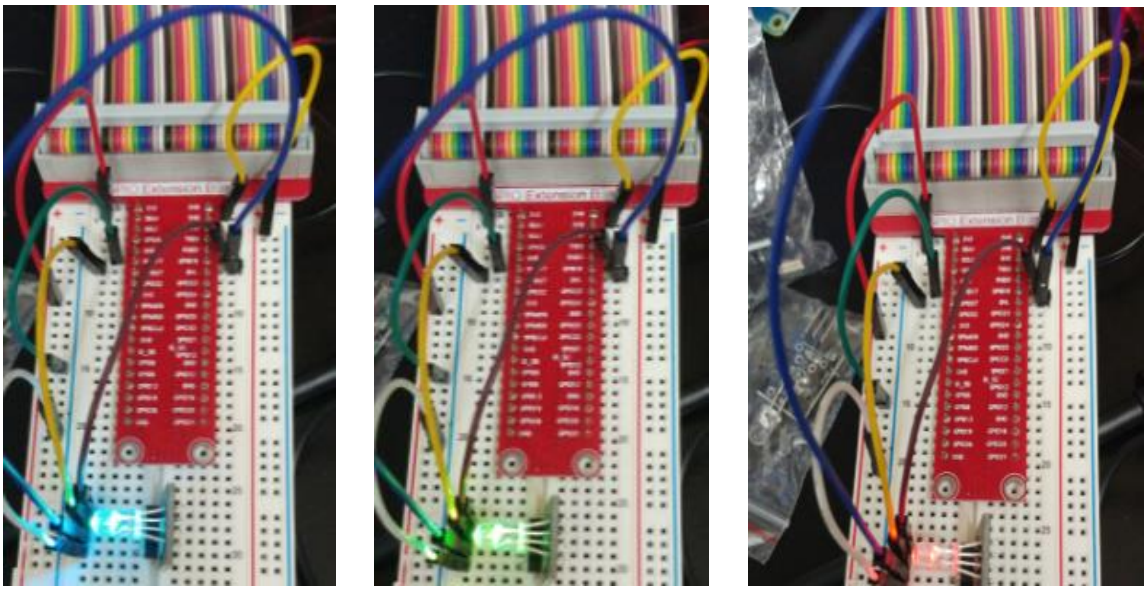
14) RGB LED :

The picture below shows how to connect the RGB led :



Picture : The RGB led wired

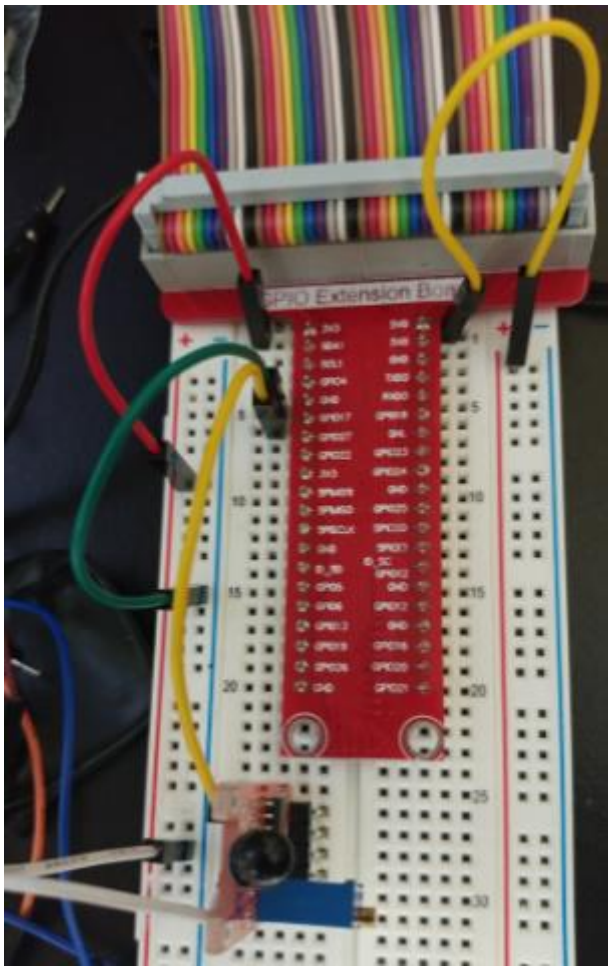
Once the code executed, the light's colour of the led will change (blue, green and red)



Picture : The light's colour changing

15) Flame :

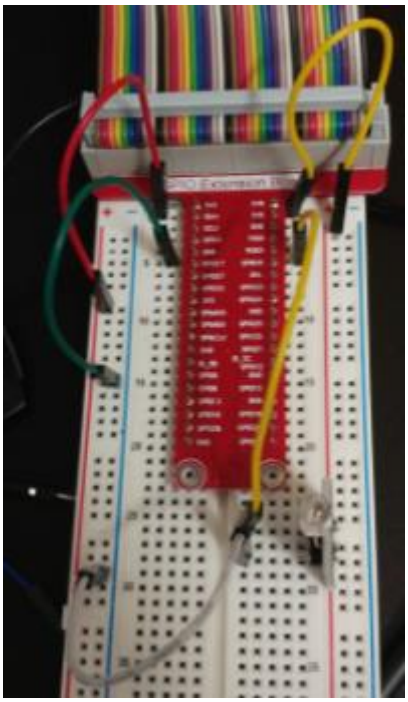
The picture below shows how to connect the flame :



Picture : The flame wired

16) LED 7 colors :

The picture below shows how to connect the led 7 colors :



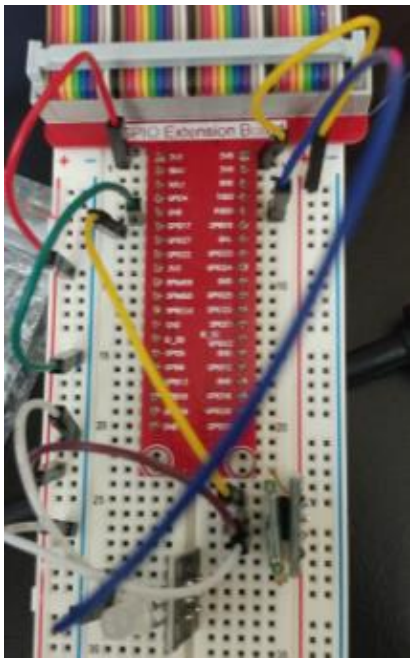
Picture : The led 7 colors wired

Once the code executed, the light of the led will light up

Picture : The led lighted up

17) Reed :

The picture below shows how to connect the reed and the double color led :

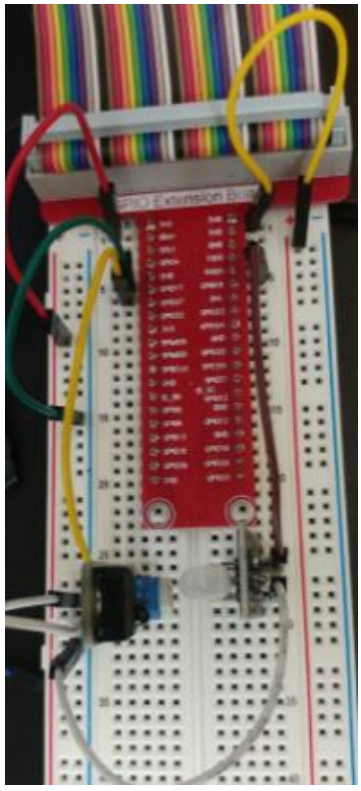


Picture : The reed wired

Normally, the led light up when the 2 magnets of the reed sensor touch each other.

18) Tracking :

The picture below shows how to connect the tracking and the double color led :



Picture : The tracking wired

Sensors working with the ADC8032 :

- Joystick PS2
- Hall magnatic
- Linear hall
- Analog hall
- Microphone (big sound and small sound)

All these sensors must be wired to the ADC8032 and the raspberry to work.