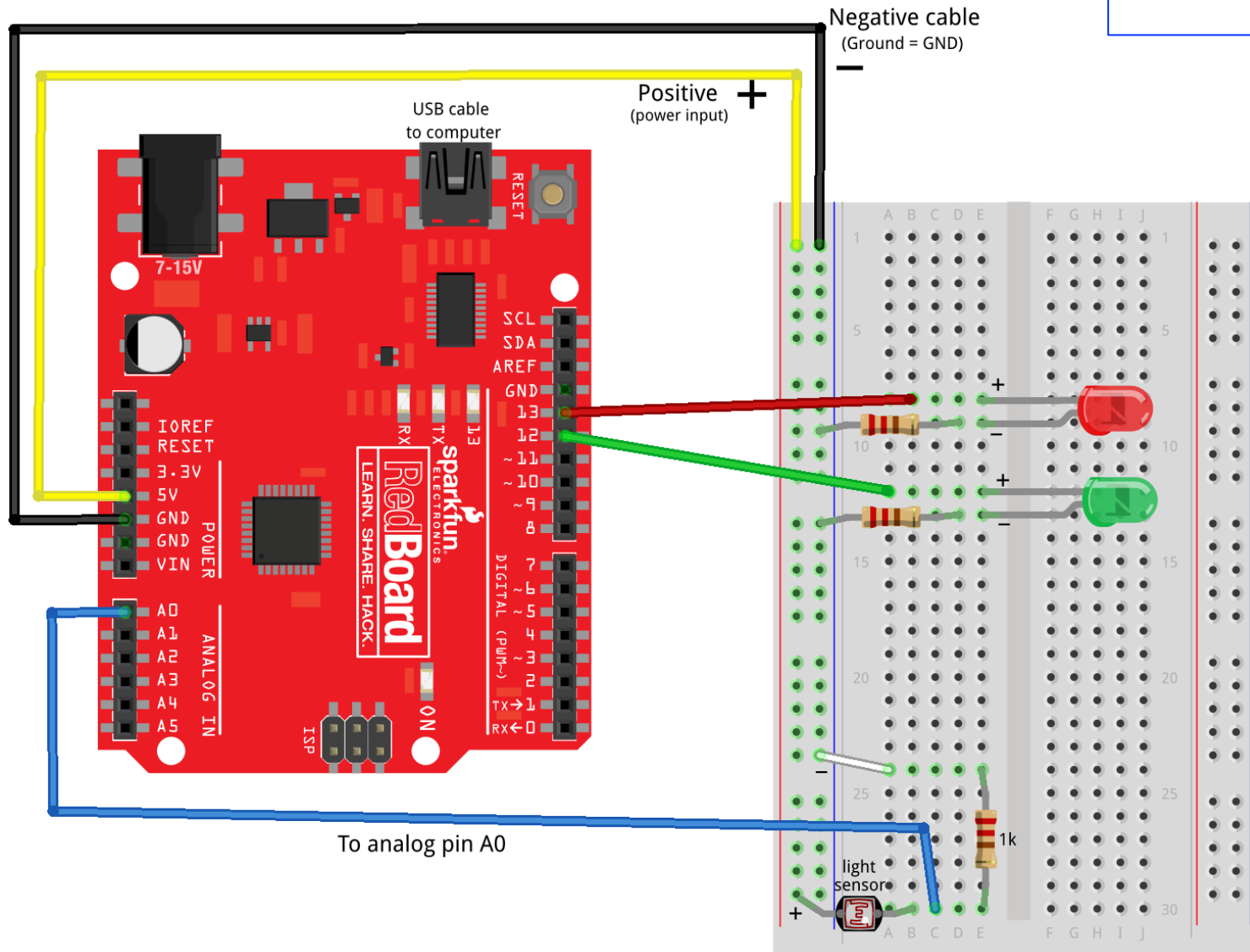


LED + light sensor circuit: Controlled blink program

Light sensor



fritzing

PLOTTING THE SENSOR SIGNAL using **MATPLOTLIB**

Open the program

LEDsLightSensor-matplotlib.ipynb

available at

<https://github.com/sccc-python-workshop/python-examples>

Execute the python code (shift+enter).

PLOTTING THE SENSOR SIGNAL using PLOTLY

Open the program

LEDsLightSensor_plotly.ipynb

available at

<https://github.com/sccc-python-workshop/python-examples>

Before we can execute this code, there are a few things you must do online beforehand.

PLOTTING THE SENSOR SIGNAL using PLOTLY

Sign up (i.e., open a free account) at
<https://plot.ly/python/getting-started/>

- Read the installation instructions for **plotly**
- Register (free) to be able to use the online plotting feature of **plotly**

<https://plot.ly/python/getting-started/>

Initialization for Online Plotting

Plotly provides a web-service for hosting graphs! Create a [free account](#) to get started. Graphs are saved inside your online Plotly account and you control the privacy. Public hosting is free, for private hosting, check out our [paid plans](#).

Or go straight to <https://plot.ly/feed/>



[Feed](#) [Pricing](#) [Make a Chart](#) [Help](#)

[Sign In](#)

[SIGN UP](#)

[UPGRADE](#)

[REQUEST DEMO](#)

[français](#)

Plotly is the collaboration platform for modern data science.

[Go Pro](#) for personalized support, private storage, and 10,000 API calls per day.

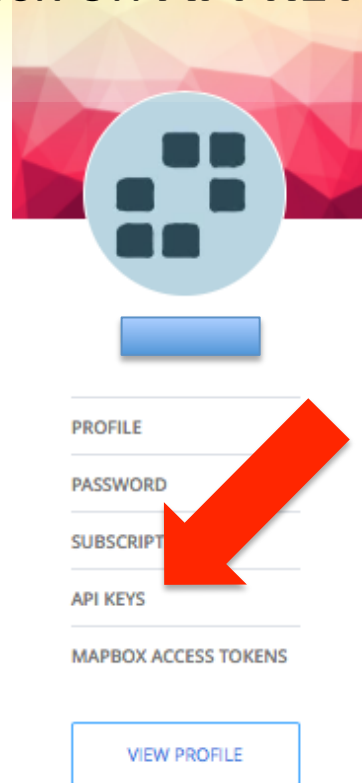
Once you sign in, click on **API KEYS** (menu on the left, under your profile name)

Generate an API KEY if you have none (there's a button for that). Write that down on a piece of paper.

Add two tokens (two is enough for this workshop) by clicking on the button "Add a new token". Write these down on a piece of paper.

Insert both **API KEY** and **TOKENS** in the Python code

LEDsLightSensor_plotly.ipynb



API SETTINGS

USERNAME

The same as your Plotly username.

denicolo Choose your own username, of course!

API KEY

Note that generating a new API key will change to your `~/.plotly/.credentials` file.

REGENERATE KEY

STREAMING API TOKENS

Use one streaming token per data-stream. Check out the [documentation](#) to learn more about the Plotly streaming API.

5zbj1kky30

Example of how **Token** and **API Key** will look like: a mix of letters and numbers

ADD A NEW TOKEN

Home | LEDSLightSensor | Home | LEDSLightSensor_plot | +

localhost:8888/notebooks/LEDSLighSensor_plot.ipynb

jupyter LEDSLightSensor_plotly Checkpoint: 17 hours ago (autosaved)

File Edit View Insert Cell Kernel Help Python 2

Code CellToolbar

INSERT HERE IN CODE

```
#Setting pins
sensorPin = board.get_pin('a:0:i')
redPin = 12
greenPin = 13

#Initializing plotly: it needs to be used online, with api_keys and stream_ids
#To get those, you must open a free account at https://plot.ly/python/getting-started/
plotly.tools.set_credentials_file(username='denicolo', api_key='[redacted]',
                                stream_ids=['5zbj1kky30', '[redacted]'])
stream_ids=plotly.get_credentials_file()['stream_ids']
print stream_ids

[u'5zbj1kky30', [redacted]]
```

In [2]:

```
stream_id=stream_ids[0]
my_stream=go.Stream(token=stream_id,maxpoints=60)
my_trace=go.Scatter(x=[],y=[],mode='lines+markers',stream=my_stream)
data=go.Data([my_trace])
layout=go.Layout(title='Detection levels from Light Sensor')
fig=go.Figure(data=data,layout=layout)
py.iplot(fig)
```

Out[2]:

11:03 AM 10/13/2016

If your **jupyter notebook** is open, close it by clicking on the command prompt window and typing CTRL-C. This should close & kill the notebook.

```
Next, write the following in the  
command line prompt of your computer  
(the same place you type "jupyter  
notebook" to open the notebook).
```

```
pip install plotly
```

Wait for the installation to be completed. Now you can open your notebook again by typing **jupyter notebook**.

Plotly will always work in your codes from now on.