PYTHON BASICS

Read the Python (and Arduino) installation procedure available at the workshop's website:
http://www2.sunysuffolk.edu/denicog/python_workshop.html

The software will be installed for you in our SCCC laptops during the workshop. But if you want to explore more outside the workshop, you will want to install these **free** packages in your personal computer at home.
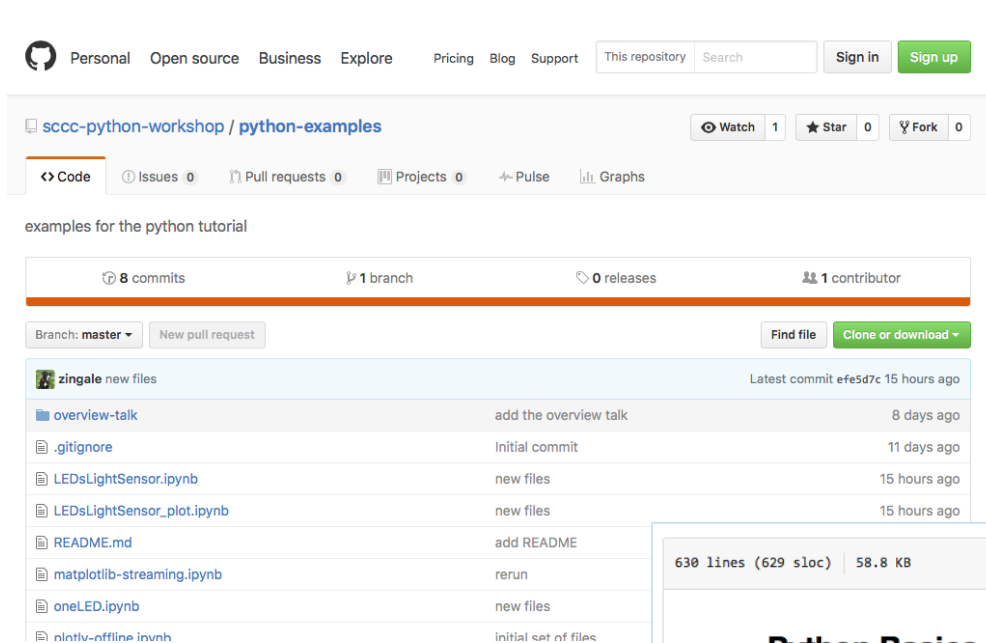
Explore the links at the workshop website. You can learn more about Python, Arduino, circuits, etc from those links.

All electronic components and Arduinos for this workshop were purchase from www.sparkfun.com. You will use the material for free during the workshop, but cannot take them home at the end.
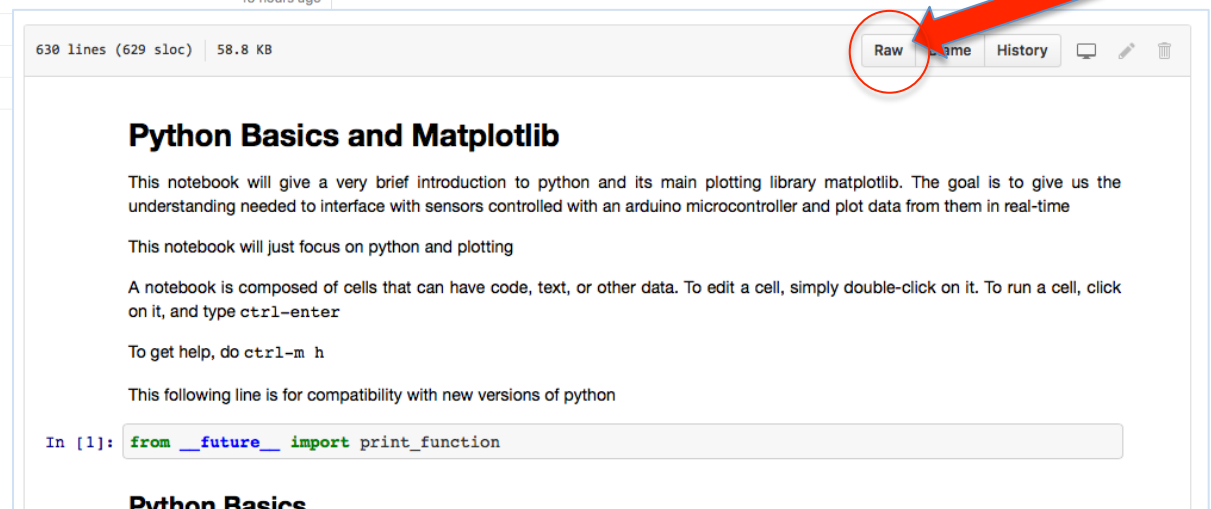
PYTHON BASICS

All Python codes used in this workshop are available at

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

To copy a code, open by clicking on the name. Once opened, click on Raw.

PYTHON BASICS

This is the Raw version of the Python code. Click with the right button of your mouse to save as a file. IMPORTANT: when selecting a name to save, it must end in *.**ipynb**, and NOT *.txt. Make sure it is not ending as *.txt, otherwise it will never open for you.

```
{
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    "# Python Basics and Matplotlib"
   ]
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  {
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   "metadata": {},
   "source": [
    "This notebook will give a very brief introduction to python and its main plotting libr
needed to interface with sensors controlled with an arduino microcontroller and plot data i
    "\n",
    "This notebook will just focus on python and plotting\n",
    "\n",
    "A notebook is composed of cells that can have code, text, or other data.  To edit a ce
it, and type `ctrl-enter`\n",
    "\n",
    "To get help, do `ctrl-m h`"
   ]
  },
  {
   "cell_type": "markdown",
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    "This following line is for compatibility with new ve
   ]
  },
  {
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   "metadata": {
    "collapsed": true
   },
   "outputs": [],
   "source": [
    "from __future__ import print_function"
```

Back
Reload Page
Save Page As...
Print Page...
Inspect Element
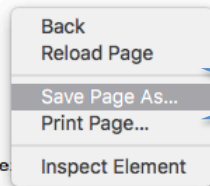
Save with the same name: do not let your computer add *.txt at the end.

PYTHON BASICS

We will be using python notebooks to learn and run the codes. You can read more about the advantages of notebook here:
https://ipython.org/ipython-doc/3/notebook/

To open a notebook – after you have completed the installation steps presented at the workshop website, you must:
1. Open a command terminal on Windows: this is done by typing cmd on the prompt of the computer (on Windows, go to the start button, and write cmd).
2. In the terminal, type jupyter notebook
3. Wait…and an internet browser should pop open (e.g., Windows Explorer, for Windows users). If more than one tab is open, click on the tab that shows directories and files: that's your python notebook. If you saved a *.ipynb code to your desktop, then click on Desktop, search of the code, and you will see it opening in the notebook.
4. To run a code (or just onecell of a code, if split into several cells) in the notebook, press shift+enter.

PYTHON BASICS

During the first day, we will go over the code

matplotlib-streaming.ipynb

and learn some python basics explained in there. Ultimately, we will produce a plot, similar to the way that will be used to produce real-time plot of sensor signals.