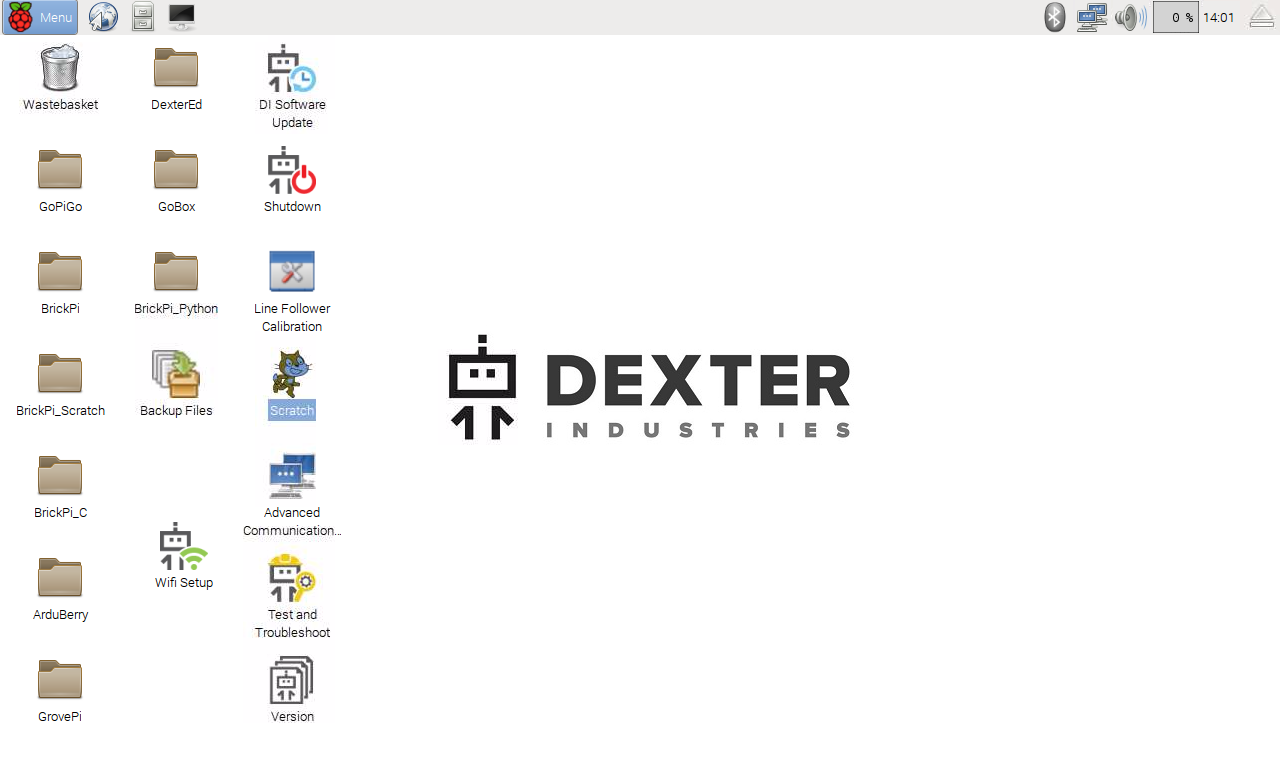
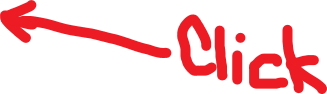
Blinking an LED with Python

By Alexa Hunleth  
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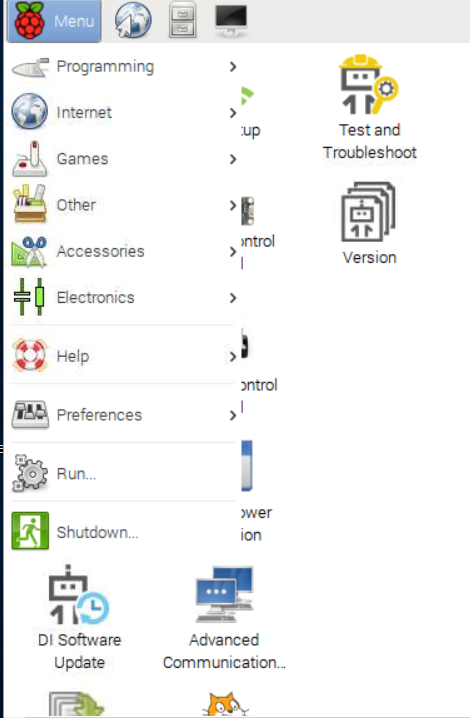
# Running Python

When you get on to the Raspberry Pi, go to the Menu.



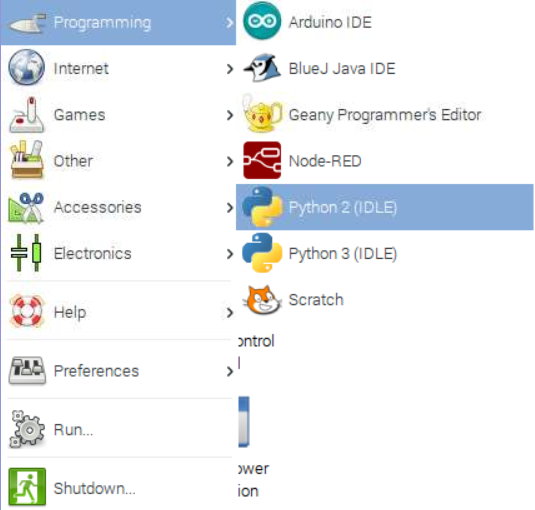


Then, click on the Programming tab.



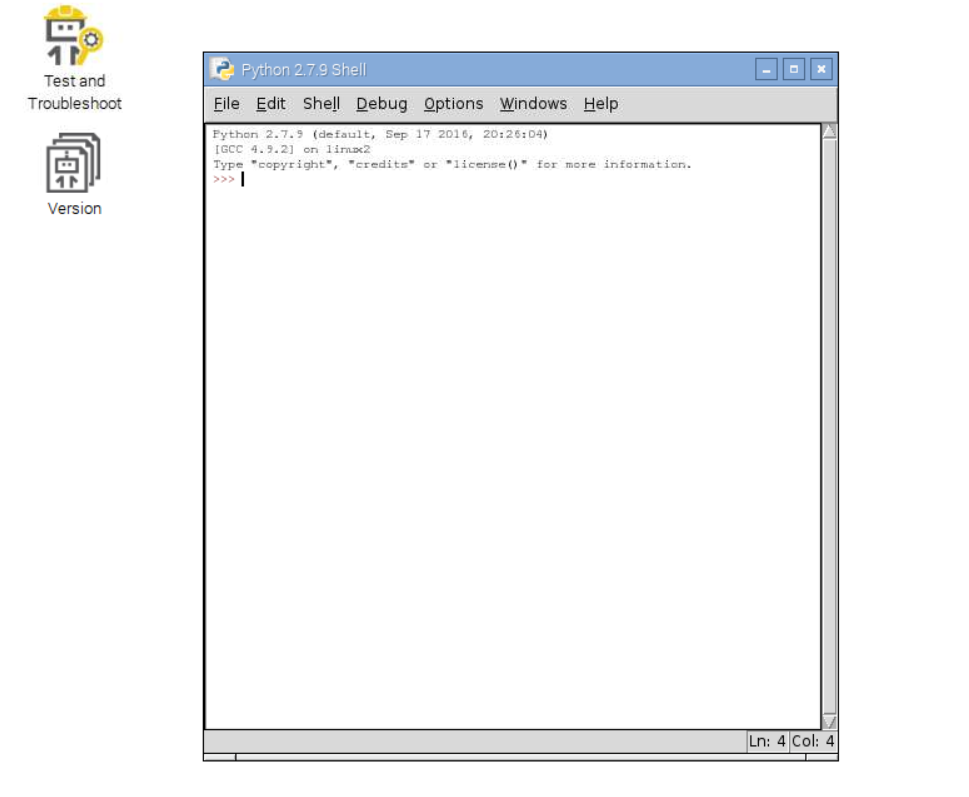


Now, click on Python 2 (IDLE). Don’t click Python 3 (IDLE) since it won’t work with the GrovePi+ board.





Your screen should look like this.





# Setting Up the LED

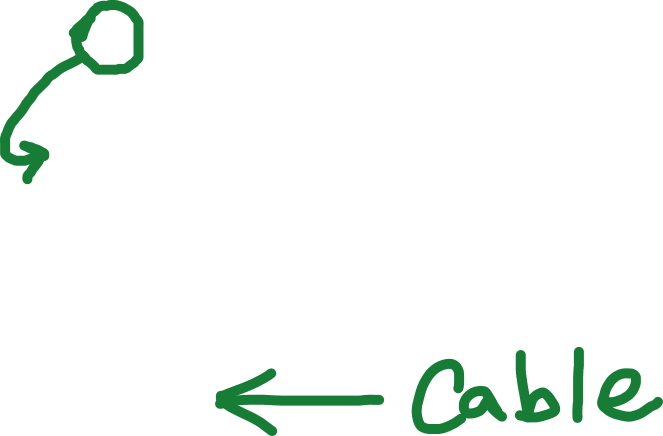


Take one of the LEDs out of the GrovePi+ Box (any color you want) and its bag.



Put the LED in the two black tubes with metallic holes, making sure that the longer of the two LED wires is in the positive black tube (look for the + sign on the board).

**If you can’t tell the difference between the lengths of the wires, put the LED in one way. If the LED isn’t lighting up at the end, make sure that everything (including the program) is correct according to the pictures. If the LED still isn’t lighting up then switch the way the LED is oriented in the black sockets.**



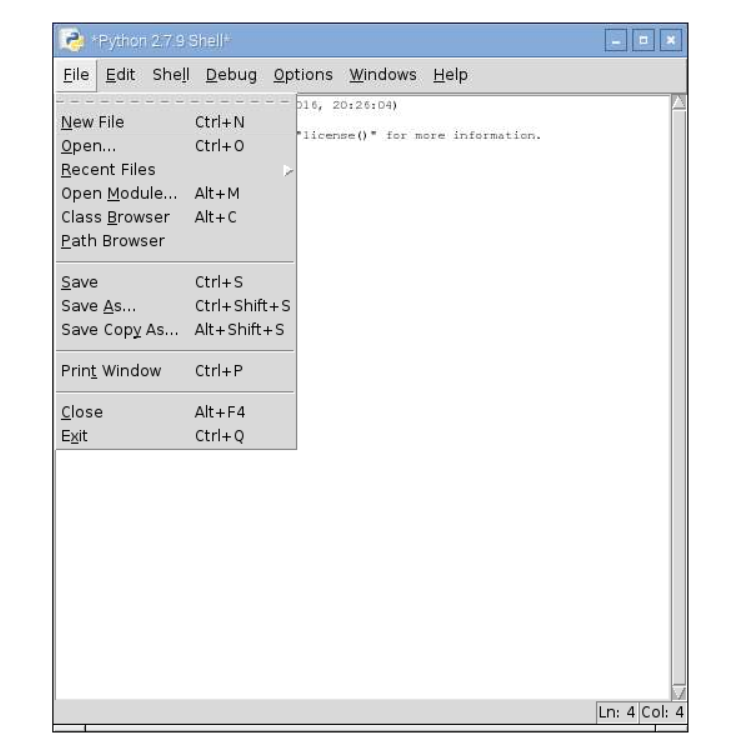
Next, hook the GrovePi+ cable to the LED’s white plastic connector.



Plug the other side of the cable into one of Digital (on board the pins are labeled with D and a number) pins on the blue GrovePi+ shield. **Remember the digital pin number for later!**

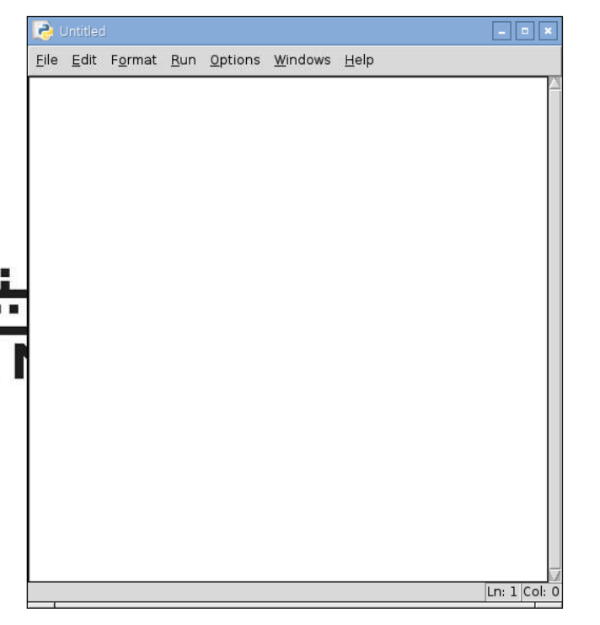
# Programming

Go to the Python 2 (IDLE) tab that you opened on the Raspberry Pi. Go to File and click New File.





You are now in a file where you can make programs and change the lines unlike in the shell prompt. Your screen should look like this now!



Now you’re ready to start programming. First, you need to import programs to make programming the LED easier. Type this into the Python File.

from grovepi import \* import time

The first line of code enables us to turn the LED on and off and the last line of code lets us use time.sleep(), which makes the program wait. Next, add an empty line of code to separate the imported code from the main code of the program. Use this code to turn the light on!

digitalWrite(2, 1)

**Change the “2” to the pin number that your LED is attached to or else the program won’t work!** The “2” is the pin number of the that the LED is in for this example, and the 1 tells the LED to turn on (on is 1 in binary). 0 means off like in binary, which means to turn of the LED, you need to type the code below.

digitalWrite(2, 0)

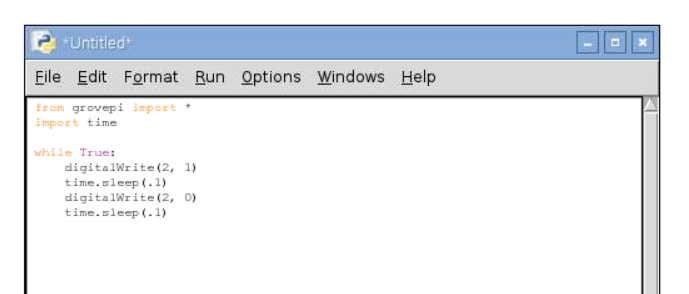
Now, we can turn the LED on and off, but there isn’t a break in between turning the LED on and off, so we can’t see the LED turn on. To make this happen, type this code after the code to turn the LED on and off.

time.sleep(.1)

The .1 in the parenthesis is how many seconds the program waits in this case, but the program can wait for however long you want it to. If you want to make the LED blink multiple times, you need to change your program. Add this code before the code to turn the light on.

while True:

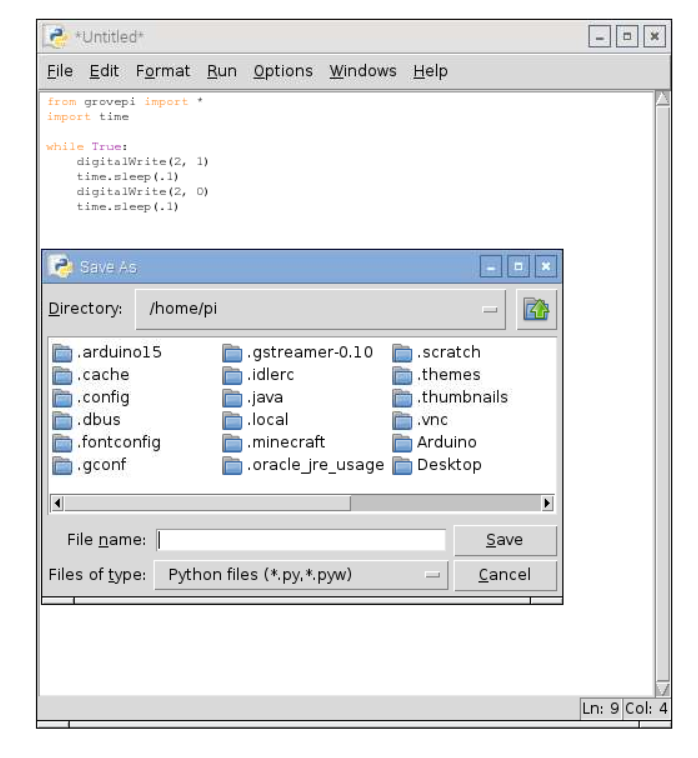
Your screen should look similar to this:

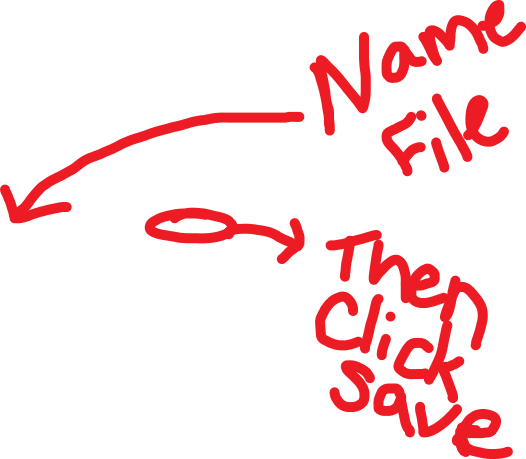


Make sure that all the indents are correct and that there are no spelling mistakes so that the program will work.

# Saving Your Work

To save your work, hold down the control button and press the “s” button on the keyboard.





This window should pop up. After you name the file and click save, you only

need to hold down both the control and “s” buttons whenever you need to save it.

# Run Your Program

To run your program, you must save your program and click the F5 key. To stop the program, just exit the Python 2 shell (by clicking the “x”).

