Configuring the Software

If you're using a KSU Workshop image with a release number of 19-102 or higher, the temperature probe software is already configured. (The release number is on the desktop wallpaper image, or you can find it by typing `cat /etc/issue` in a terminal window.)

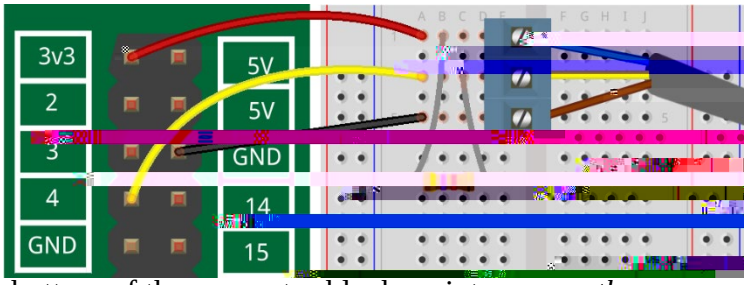
If you started with "vanilla" Raspbian, you must install the software and enable the 1-Wire interface. To install the software, open a terminal window and type:
`sudo pip3 install w1thermsensor` An Internet connection is required.

To enable the 1-Wire interface, click the Raspberry at the top left, then Preferences Raspberry Pi Configuration. Click the Interfaces tab, select the Enable button next to 1-Wire, then OK. Allow the configuration software to perform a reboot.

By default, the 1-Wire interface uses GPIO pin 4. Unlike the other devices, the pin number is not specified in the Python code. You should not need to change this, but if you do, you will need to edit the /boot/config.txt file and add the line dtoverlay=w1-gpio,gpiopin=x where x is the pin you want to use, then reboot.

Wiring the Circuit

This circuit must be attached with the Raspberry Pi turned off. Check your wiring very carefully because incorrect wiring can damage your Raspberry Pi. If you do this in class, consider asking students to check each other's work. The colors for wires given here are *only* for the probe in the Picademy parts kit. If your probe came from elsewhere, *be sure* you know which color goes to which pin.



The temperature probe has three leads made of stranded wire, which is difficult to attach directly to the breadboard. Your parts kit contains a connector block for attaching the wires. Loosen the screws on the top of the connector block, insert the wires in the openings on the side, and tighten the screws. Note that the pins on the bottom of the connector block go into *every other* hole in the breadboard.

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