

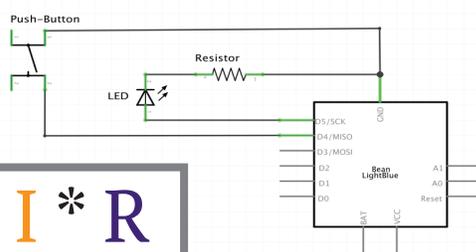
Lab 1: Blink Button

Set up the board so that the LED circuit is only made 'complete' when the button is pushed.

For the bean sketch to work correctly, we need to have **PIN_4** get pulled LOW when the button is pushed. When **PIN_4** changes from HIGH to LOW, the bean sketch will toggle the output of **PIN_5** -- turning the LED either *on* or *off* depending on its current state.

PIN_4 should connect to the *button*

PIN_5 should connect to the *LED*



OHM's LAW: $V = I * R$
"Voltage = Current * Resistance"

Homework:

We've made a prototype of our Blink_Button circuit on the breadboard. Now build the same circuit again, but this time use the prototyping materials given to you. Everyone should have:

- a square of cardboard
- conductive copper tape
- resistor(s)
- 3 wires
- [LED and push-button are in your kit]

Prepare your cardboard circuit for Wednesday.

Tips and Tricks for Building:

- Your biggest concern in building this will be making sure everything is properly (& stably) connected. Use your multimeter constantly to check for good connectivity.
- Draw out a 'blueprint' of how you want your circuit to look prior to building it
- Tape out the full circuit prior to trying to get any of the components onto the cardboard
- It works well to poke holes through top layer of the cardboard and thread wires through the holes to the end of the board. This helps reduce the amount of movement the wires are subject to and make the connections more secure.
- We've found that the best and most consistent connections are made when we put down copper tape and poke the components through it into the cardboard.
- If you're having a hard time getting the copper tape to stick, try smoothing it down with your tweezers.
- Liberal usage of the copper tape can be necessary. Don't be afraid to add more where you may have a weak connection
- Test everything. Every time you make a change or addition test it!

Button

