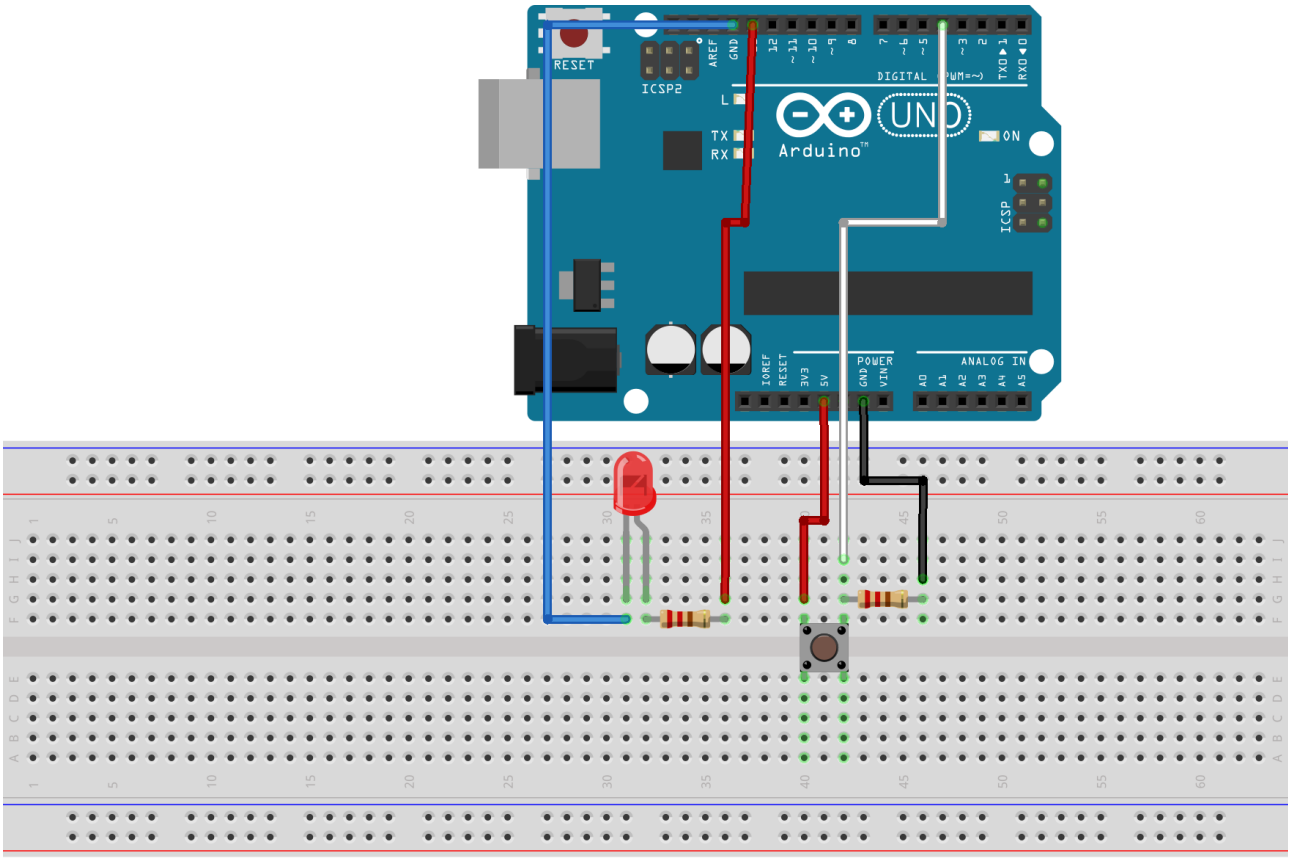
Circuit 1 - Pushbutton & LED

For this circuit you simply need to make the following connections between the Arduino and the push buttons.

Notes:

- Orientation of the LED is super critical! LED's will FAIL if you plug them in the wrong direction.
- The resistor for the LED should be 270R
- The resistor for the Pushbutton should be 5K (A resistor in this configuration is called a pull-down resistor used to bias the button to a specified voltage in the off state).



***Note.**

For the students that find this incredibly easy, a challenge would be to hook up multiple buttons and LED's, and experiment with varying outputs of the LED's for specific configuration of the input buttons.

Advanced challenge.
When a button is pressed the circuit will not just close instantly, there will usually be some inherent bouncing in the switch contacts causing multiple touches to be recognised. The challenge would be to try to count the number of times the switch bounces with each press.