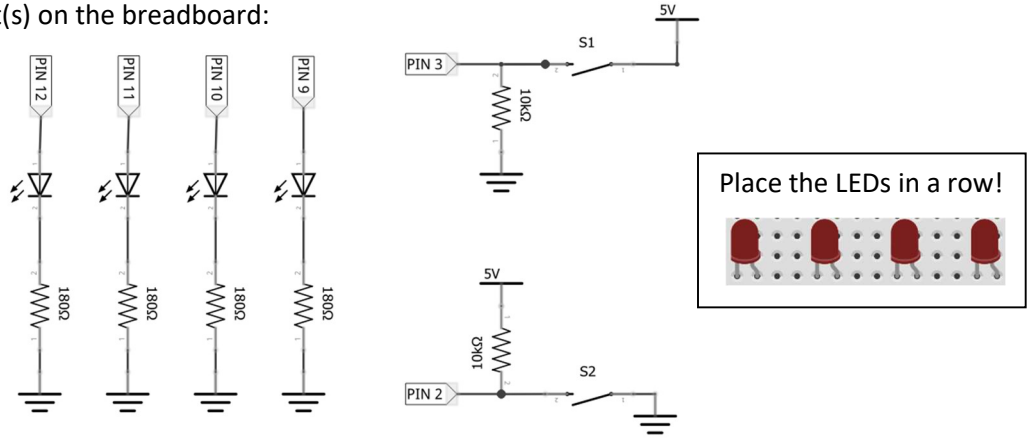


TEJ3M – Basic I/O Assignment

Build the following circuit(s) on the breadboard:



Functionality:

Level 1:

- Button S1 turns on all four LEDs when pressed. (and turn off when released)

Level 2:

- Either button (your choice, but it does not need to be both) toggles all four lights on
- A single press of the button should change the state of the lights.
 - ie: One press turns them on, then release, and the next press turns them off

Level 3:

- Have only one LED lit at a time.
- A single press of S2 causes the lit LED to move in either direction in some way.

Level 4:

- The lit LED should move in a pattern from left to right (1 → 2 → 3 → 4 → 1 → 2 → 3...)
- A single press of S1 causes the pattern to increase the speed.
- A single press of S2 causes the pattern to decrease in speed.

Extensions:

- Implement millis() for the pattern sequence so that the button isn't laggy, or
- Have the pattern set up so when it gets too slow, it actually changes direction.

TO BE SUBMITTED

Email a copy of your best WORKING code to stephen.emmell@ocdsb.ca. Leave your circuit intact in your bin.

Hints/Tips:

- Build your circuit and test functionality of EACH PART INDIVIDUALLY before proceeding. Do not attempt to build the circuit and Level 4 functionality at one time.
- Save copies of your work at each level so that you can submit your best WORKING code.