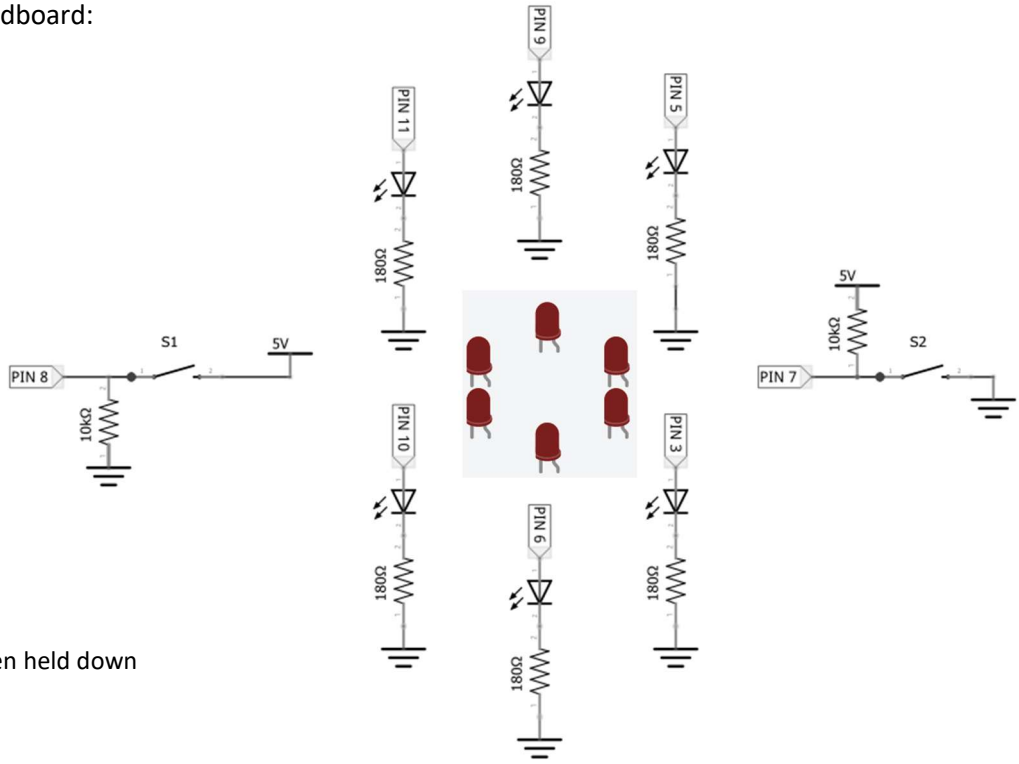
TEJ3M – Basic I/O Assignment

Build the following circuit(s) on the breadboard:



Functionality:

Level 1:

- Wire this circuit correctly on your breadboard.
- The LEDs must be placed in a circular pattern.

Level 2:

- All of Level 1 requirements.
- Button S1 turns on all the LEDs when held down and turns them off when released.

Level 3:

- All of Level 1 requirements.
- Have only one LED lit at a time.
- Either button S1 or S2 generates movement of the lit LED in some way.
    - NOTE: When button(s) are not being pressed there should be no movement. Movement should only happen on button press.

Level 4:

- All of Level 1 requirements.
- The lit LED should rotate circularly through the LEDs.
- Button S1 should noticeably speed up this rotation (the interval / delay should get smaller)
- Button S2 should noticeably slow down this rotation (the interval / delay should get larger)
- Only one speed change should happen per button press.

Extensions:

- You will notice that if you use delay() the button will be slow to respond. Fully implement this using millis() instead

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.