

# Arduino Lab 2: buttons

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Name: \_\_\_\_\_ Signature \_\_\_\_\_

As you complete each component, demo what you have done to your teammates and have them initial signifying that that component is complete.

Place completed form (one per person) in team folder

First a few simple questions:

1) In the code we write for the Arduino there are 2 required functions. What are these functions?

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2) I/O pins (Input/Output) as the name suggests can be either input or output. What function do we use to set a pin to be output?

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Today we will be working through the tutorials at <http://www.ladyada.net/learn/arduino/> Specifically the Lesson 4 and Lesson 5 tutorials.

## Lesson 4

This material is useful, and I would encourage you to read it outside of class. For now you just need to know enough to do the following:

### **dumb metronome**

Construct your Arduino to do the following:

1. on the serial monitor there the sequence 1, 2, 3, 4, will be continually repeated. The numbers are to change every  $\frac{1}{2}$  second. (there is a  $\frac{1}{2}$  second delay between displaying '1' and displaying '2', etc)
2. every time the number '1' is displayed, an LED should turn on for  $\frac{1}{2}$  second.

Signed off by \_\_\_\_\_

## Lesson 5

I would like you to go through this lesson in detail.

- 1) Discuss among your teammates the purpose of a pull-down resistor and understand how it relates to the circuit diagrams we have been drawing for logic circuits.

Signed off by \_\_\_\_\_

- 2) Demo the bounce problem with the blinky lite design challenge part 1

Signed off by \_\_\_\_\_

- 3) Demo the debounced blinky lite and do a code review (show your team mates your code)

Signed off by \_\_\_\_\_

- 4) Demo the blinky light design challenge part 2

Signed off by \_\_\_\_\_

- 5) Demo the blinky light design challenge part 3

Signed off by \_\_\_\_\_

- 6) Come up with more flashy modes and demo to your team. Describe them below:

Signed off by \_\_\_\_\_