

## Meet the Lab Worksheet

Name \_\_ Hunter Befort \_\_

Course/Section \_\_ 1106-007 \_\_

Please complete the following steps to complete the introduction lab:

1. What color wire carries 5V on the breadboard? \_\_ Red \_\_
2. What color distribution strip carries 5V on the breadboard? \_\_ Red \_\_
3. What color wire carries 0V on the breadboard? \_\_ Black \_\_
4. What color distribution strip carries 0V on the breadboard? \_\_ Blue \_\_
5. Using a type A to mini B USB cable, connect the breadboard to the USB port of the computer.
6. Using a multi-meter, measure the difference between the red and black wires on the board and record below. It should be around 5V, but it will not be exactly.

The voltage was \_\_ 5.083 \_\_ V

Note: This is the same voltage that is provided your flash drives and phone chargers when you plug them into a computer.

7. Take the blue LED and a 220 ohm resistor (red-red-brown) in series as shown in the LED Section above and connect them across the red (5V) and blue (0V) distribution strips at a point near the Digilent label so it is out of the way for the next steps. It should glow brightly.
8. Take the orange LED and a 220 ohm resistor (red-red-brown) in series as shown in the LED Section above and connect them between the center connection of one of the slide switches and the blue (0V) distribution strips.
9. Using a multi-meter, measure the difference between the center connection of the switch and the blue (0V) distribution strip and record below with the switch in the left and right position below:

With the switch in the left position (relative the the picture in the Breadboard Section), the voltage was \_\_ 0.000 \_\_ V and the LED was \_\_ off \_\_ (on or off)

With the switch in the right position, the voltage was \_\_ 5.065 \_\_ V and the LED was \_\_ on \_\_ (on or off)

### 10. Lab checkout steps:

- a. Show your working circuit to the grader.
- b. Create a file, lastname\_netid\_lab0.zip, that includes the following files:



- A JPEG/JPG or PNG image of your working circuit - This completed

lab worksheet with all data completed

c. Upload the zip file to Canvas.

d. After you have taken your picture and send the zip file, remove the LEDs and resistors you added and return everything to the box on the shelf. Do not remove the USB adapter, ICs, slide switches, or the pre-installed red and black wires.

Thank you for attending the lab.

In the next lab, we will explore basic digital logic circuits and their relation to Boolean operators in the C programming language.

- Professors Losh and Davis

### **Lab 0 Rubric**

#### Prerequisite:

-40: Did not complete syllabus quiz on time

#### Assignment:

-10: Wrong file name

-10: Wrong file type for image

-40: No completed worksheet

-40: No image of working circuit

