

## Digital Input & Output

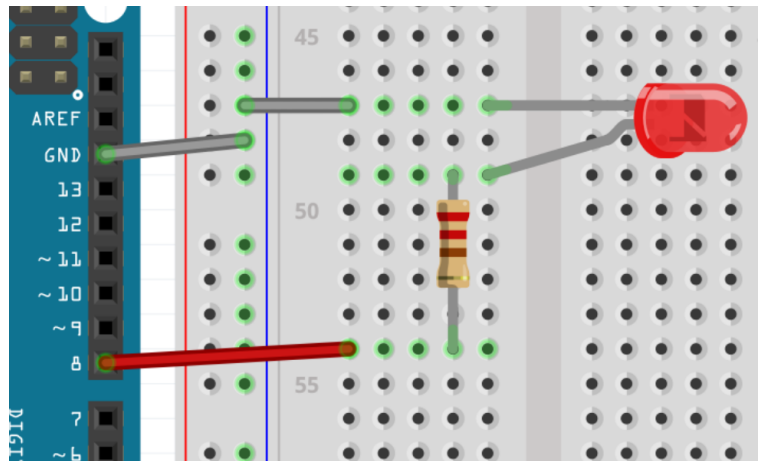
Name: \_\_\_\_\_

Digital signals are either 0 or 1, the Arduino Uno has 14 digital pins.

We'll cover how to blink an LED, and read if a button was pressed.

What You'll Need:

- 1 x Arduino Uno board
- 1 x Breadboard
- 1 x LED
- 1 x Button
- Jumper wires

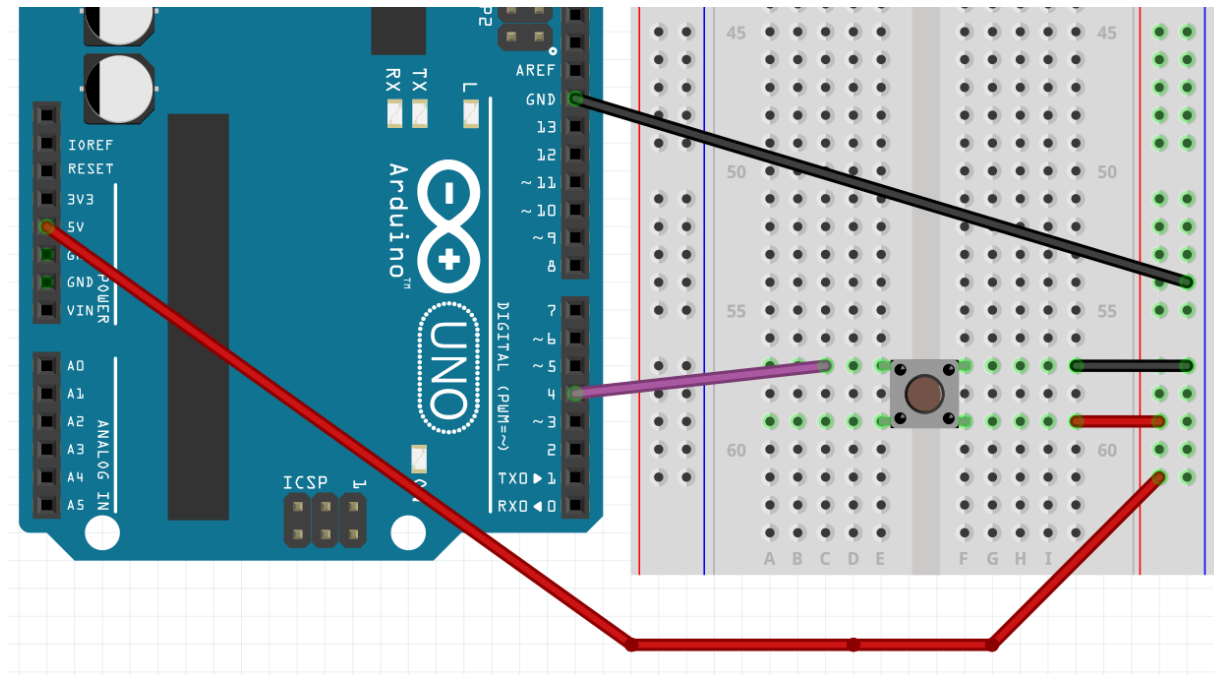


This code would blink a LED on Pin 8

```
1 void setup() {
2   // Configure Pin 8 as output pin
3   pinMode(8, OUTPUT);
4 }
5
6 void loop() {
7   // Set LED on Pin 8 to ON
8   digitalWrite(8, 1);
9   delay(500);
10
11  // Set LED on Pin 8 to OFF
12  digitalWrite(8, 0);
13  delay(500);
14 }
```

Challenge: How could we blink 3 LEDs one at a time? Imagine traffic lights running 2 seconds Green, 1 second Yellow and 2 seconds Red.

## Read the Button State



**Figure 1:** Pin 4 Button Circuit

In this example, we print the value read on **Pin 4** to the Serial Monitor

```
1 void setup() {  
2   // Configure Pin 4 as an Input pin  
3   pinMode(4, INPUT);  
4  
5   // Configure serial communications  
6   Serial.begin(9600);  
7 }  
8  
9 void loop() {  
10  // Print out the button value in serial communication  
11  Serial.println(digitalRead(4));  
12 }
```

Open the **Serial Monitor** with **Ctrl + Shift + M**

Challenge: Make a counter with a button.

Each time the button is pressed, we add 1 to the count.

Print the count in the serial monitor.

Hint; Create a **count** variable