tangible

DIGITAL INPUT

Tangible Matrix

Context	DIGITAL	ANALOG
INPUTS	BUTTON	POTENTIOMETER photoCell
OUTPUTS	LED BLINK	LED FADE

Digital INPUT

Context	DIGITAL	ANALOG
INPUTS	**BUTTON**	POTENTIOMETER
OUTPUTS	LED BLINK	LED FADE

REFERENCE

Digital Input

CONTEXT

	Digital	Analog
Input	■	
Output		

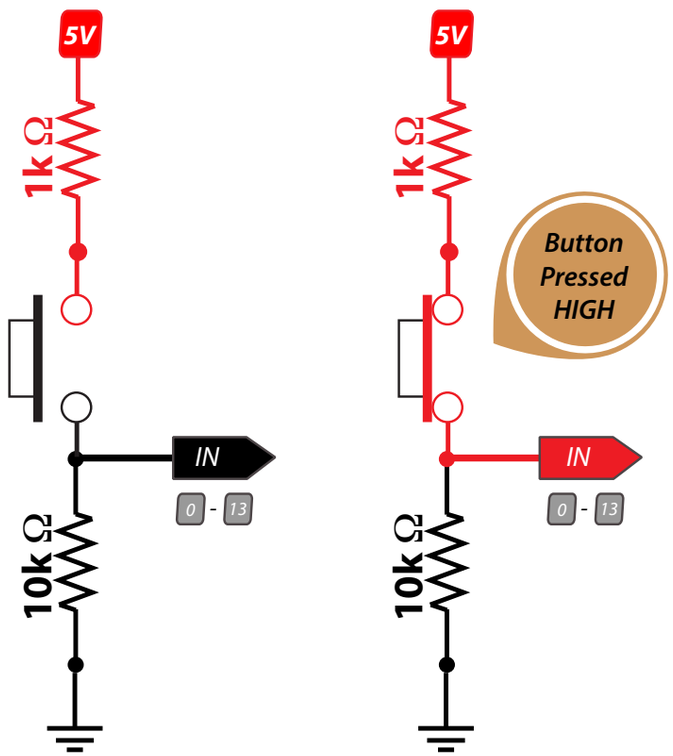
COMMAND

int *state* = digitalRead (*pin*);

pin = 0-13

state = 1(HIGH, 5V) , 0 (LOW, GND)

CIRCUIT

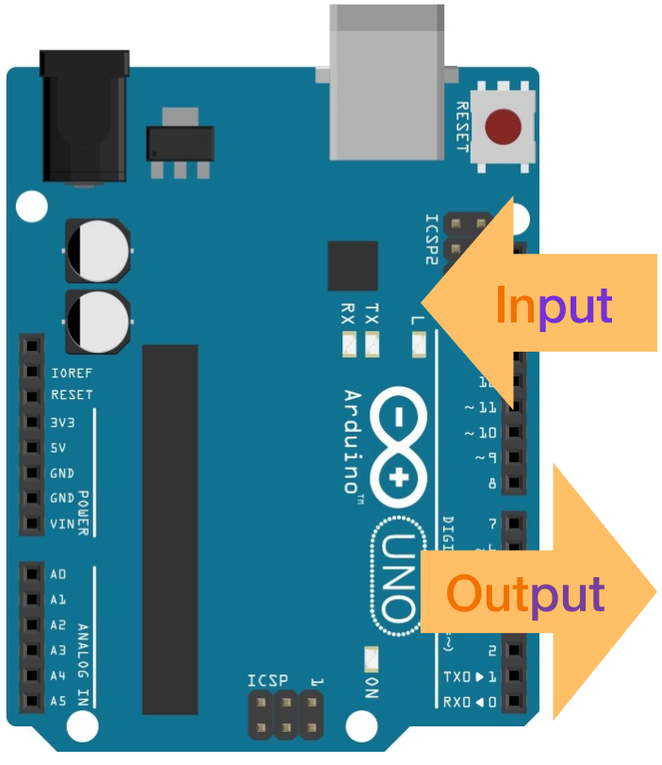


CODE

```
int buttonPIN = 2;
int state = 0;

void setup() {

  pinMode( buttonPIN, INPUT );

  Serial.begin(9600);

}

void loop() {

  state = digitalRead( buttonPIN );
  Serial.println(state);
  delay(50);

}
```

INPUT / OUTPUT

When we discuss **INPUT** and **OUTPUT** we mean relative to our **ARDUINO**.



INPUT

Electric **SIGNAL** that moves **IN** **to** the **Arduino**

OUTPUT

Electric **SIGNAL** that moves **OUT** **of** the **Arduino**

DIGITAL

Refers to **SIGNALS**, **CIRCUITs** or **LOGICAL** systems that have

ONLY TWO STATES

DIGITAL

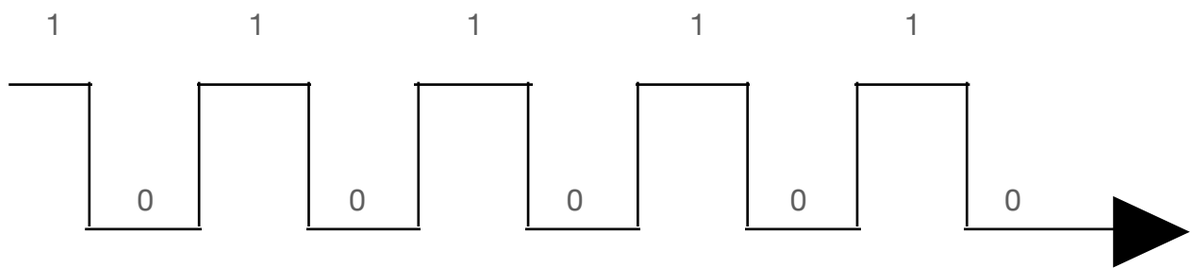
Refers to **SIGNALS**, **CIRCUITs** or **LOGICAL** systems that

have

ONLY TWO STATES

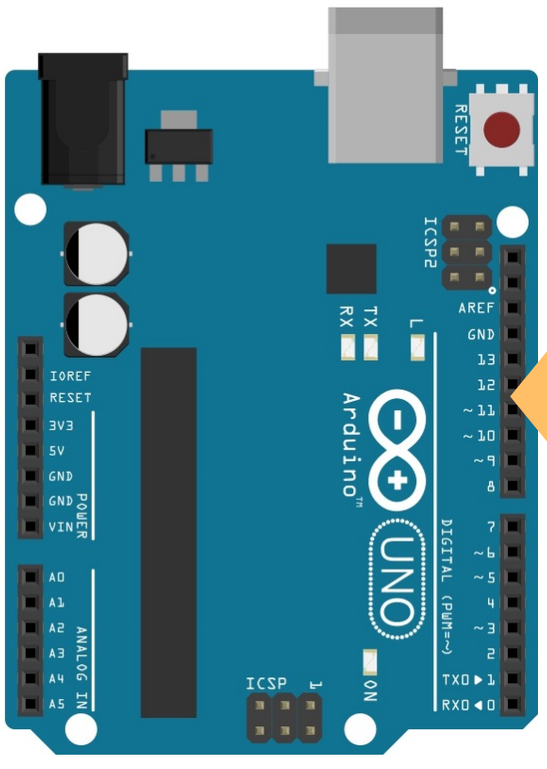
(0,1)

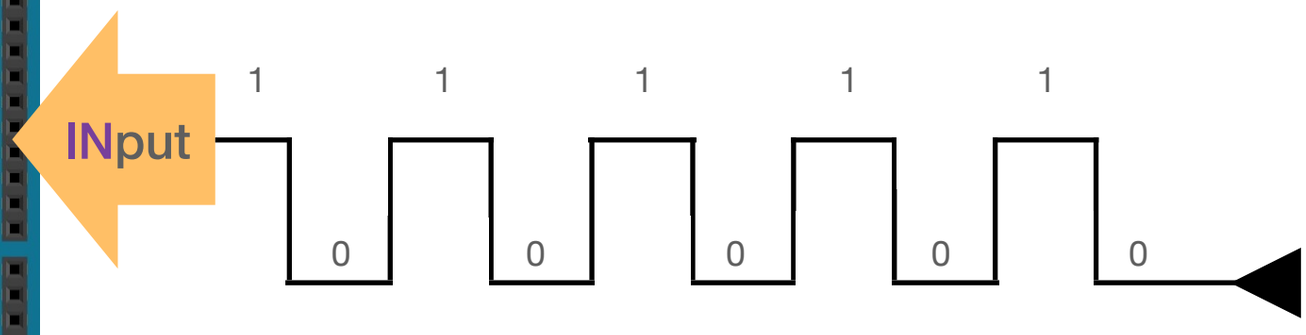
An **ON/OFF** SIGNAL.



DIGITAL INPUT

An **ON/OFF** SIGNAL that moves **INTO** the Arduino





PINs: 2-13

The CODE

Digital **Input** (Read a Button)

int *state* = **digitalRead**(*pin*);

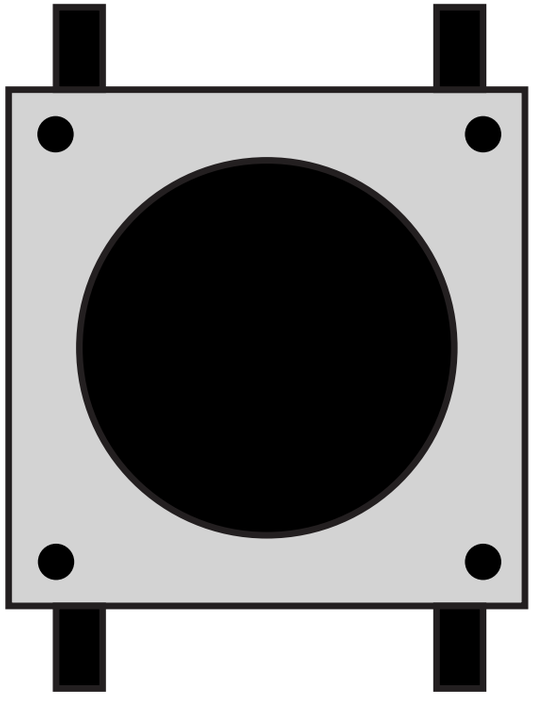
Digital **Output** (Write to an LED)

digitalWrite(*pin*, *state*);

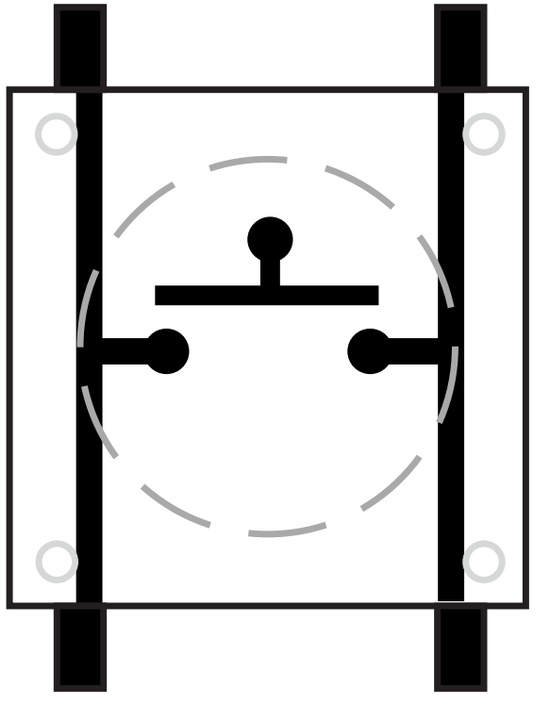
The Circuit

The BUTTON

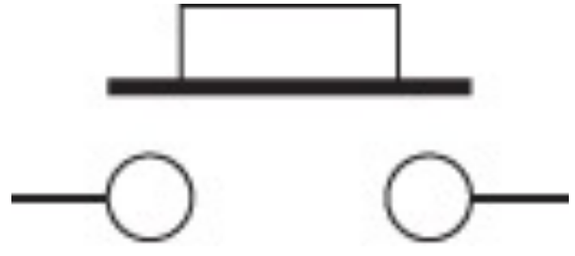
Diagram



X-Ray

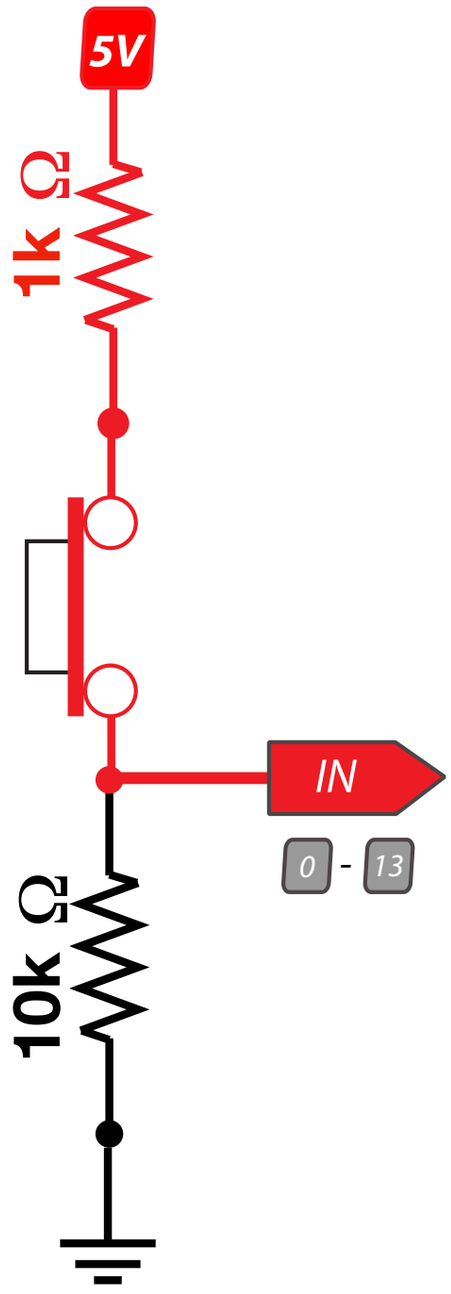


Schematic



The BUTTON

Create a digital input.



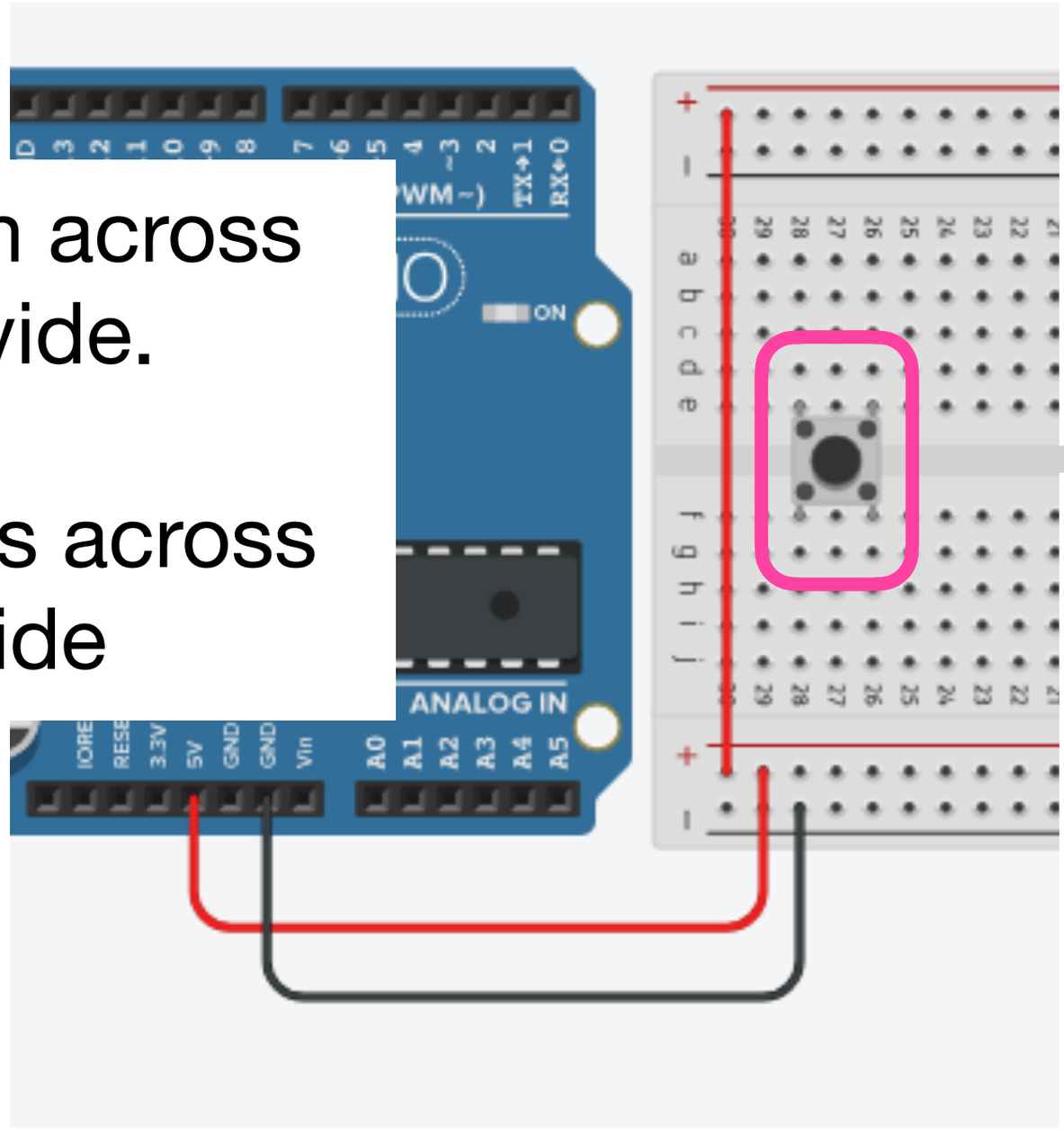
This is the schematic for a button.

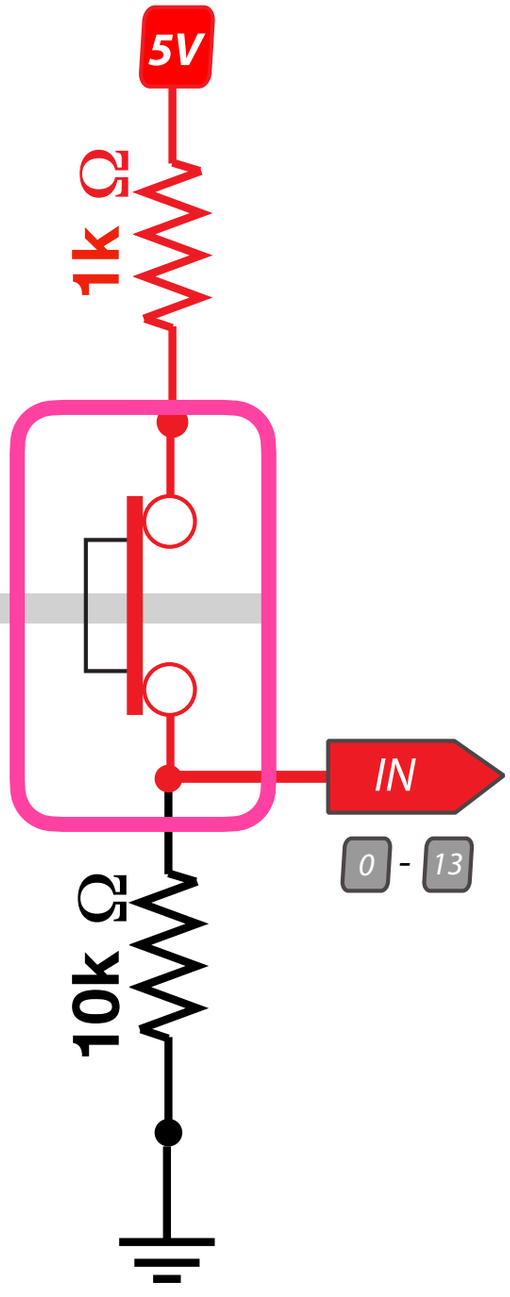
The BUTTON

Create a digital input.

Place button across great divide.

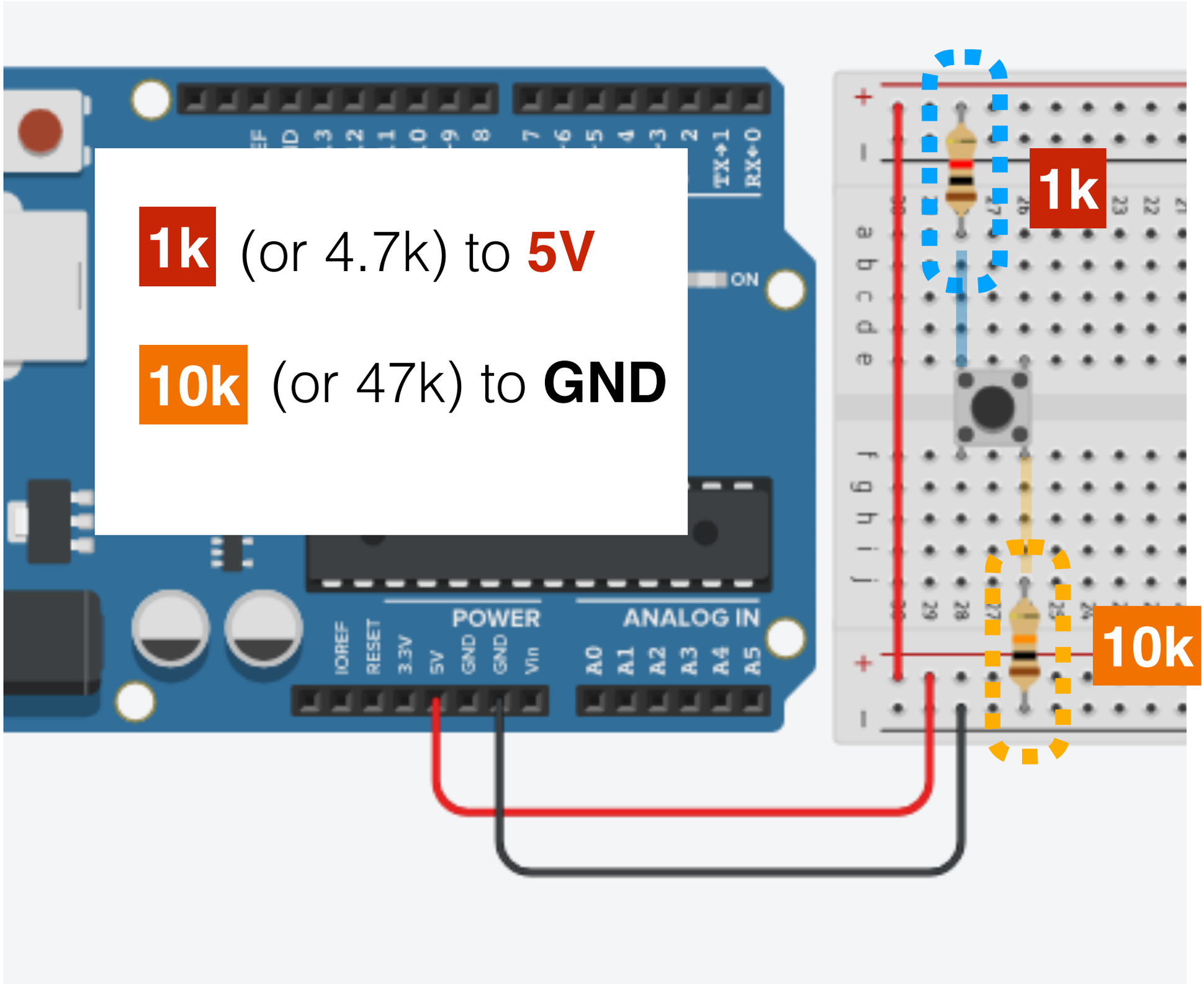
smooth sides across the divide





The BUTTON

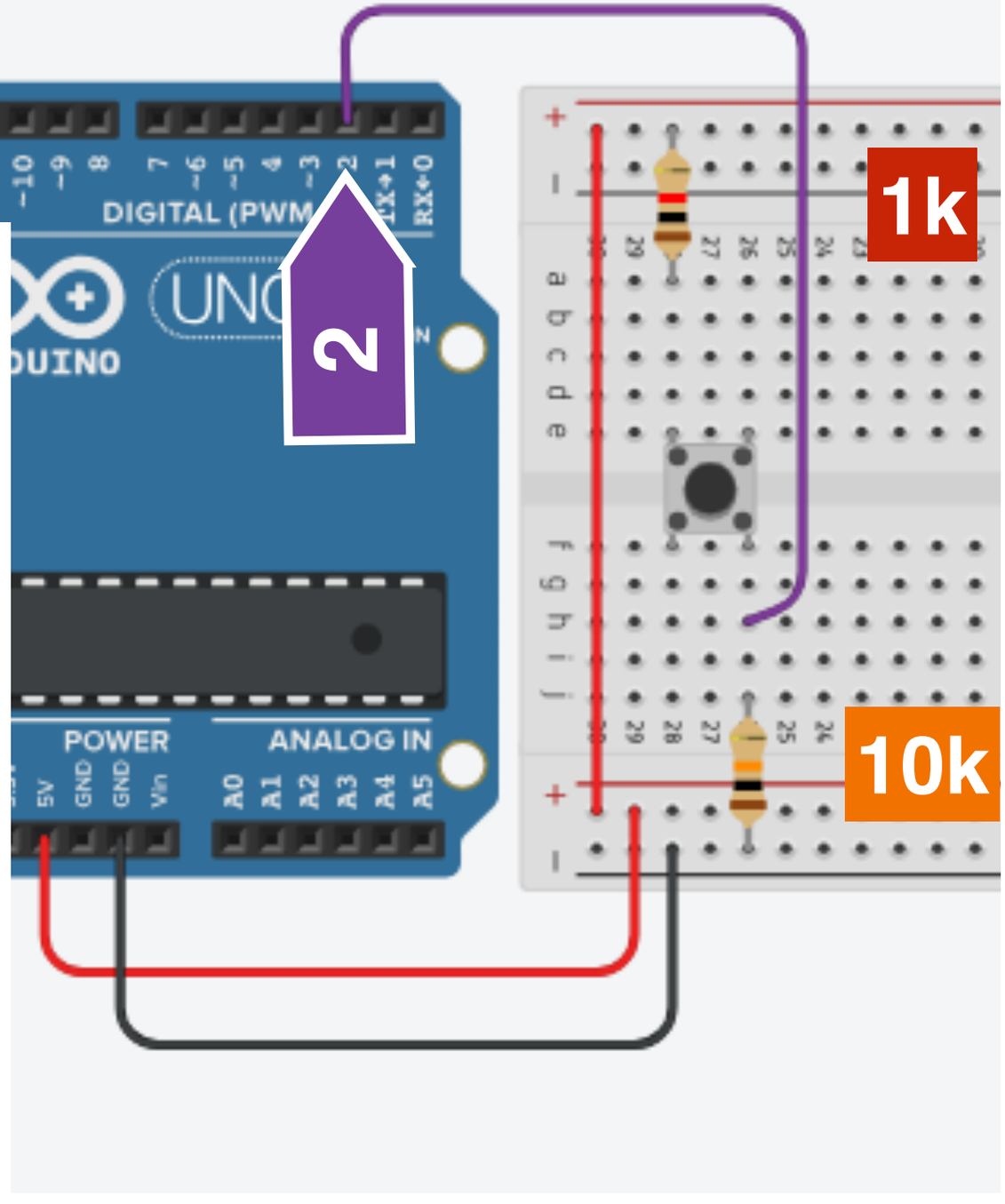
Create a digital input.

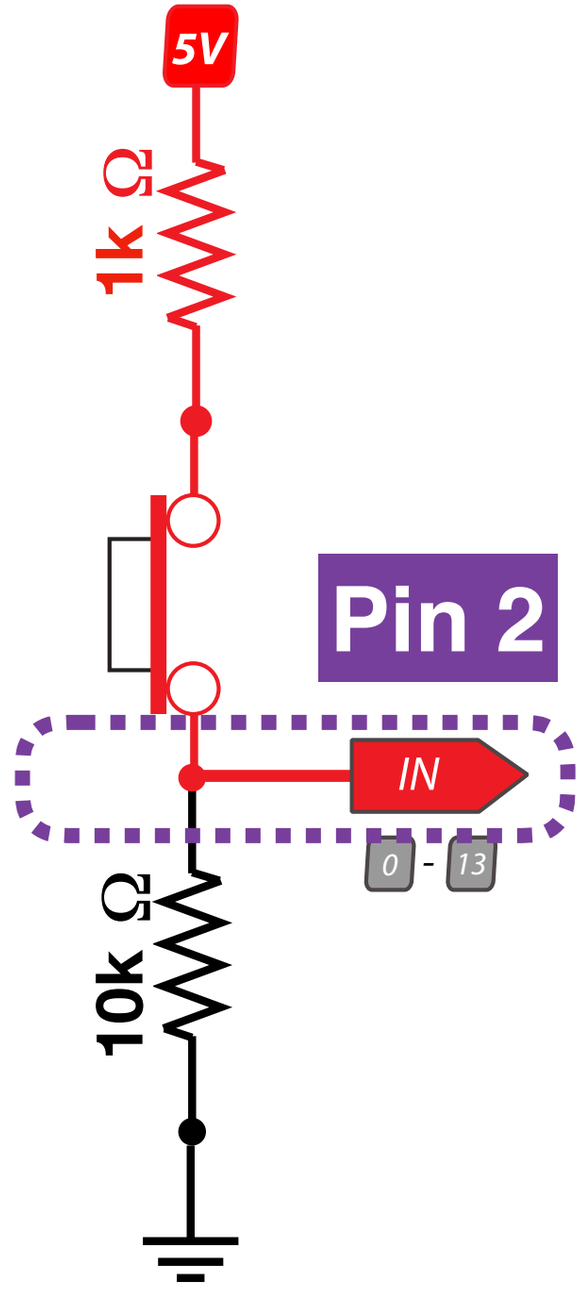


The BUTTON

Create a digital input.

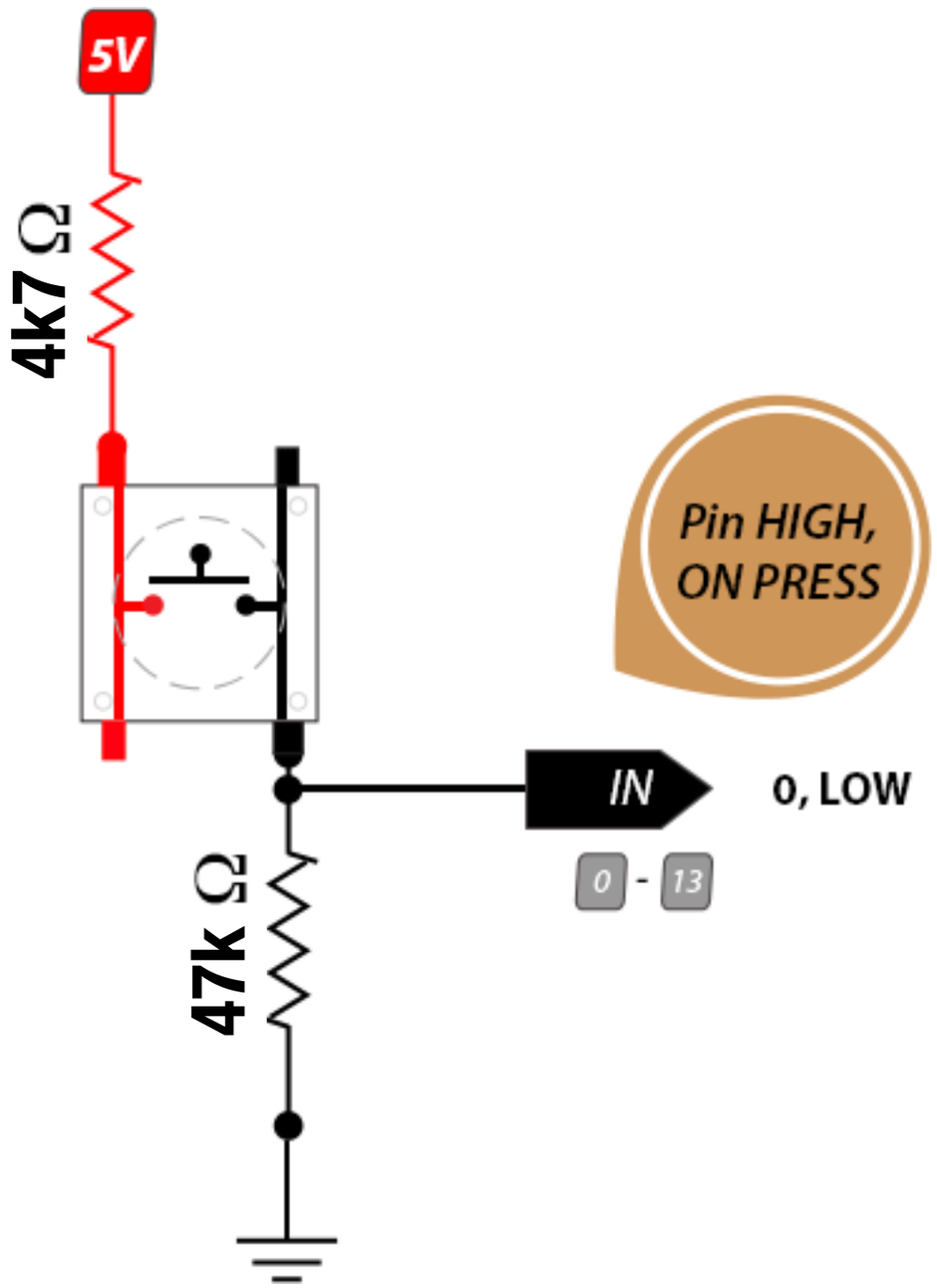
Wire from **BUTTON GND** side, to **ARD Pin 2**





Add CODE

What’s Going ON ?



What's Going ON ?

```
digitalRead(pin); // reads the height of a waterfall.
```